Aspire SA90
AcerPower S290
Service Guide

Service guide files and updates are available on the AIPG/CSD web; for more information, please refer to http://csd.acer.com.tw

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Aspire SA90/AcerPower S290 service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Features

Operating System

- Microsoft Windows Vista (Home Basic, Home Premium, Buiness)

Processor

- Socket Type : Intel® Socket T LGA 775 pin
- Processor Type :
  - Intel® Core 2 Duo 755 FSB 1066/800/533 MHZ
  - Intel® Pentium 4/D 775 FSB 533/800MHz
  - Intel® Celeron D775 FSB 533MHz

Chipset

- North Bridge : SiS 671/671FX
- South Bridge : SiS968

PCB

- Form Factor : Mirco ATX
- Dimension/ Layer : 244mm x 244mm

Memory

- Memory Type : DDRII 667/533/400
- Support single channel 64 bit mode with maximum memory size up to 2GB
- Support un-buffered DIMMs only
- DIMM Slot : 2
- Memorry Max. : Support 128MB, 256MB, 512MB and 1GB DDR memory technologies
- Cpapcity :Up to 1 GB per DIMM with maximum memory size up to 2 GB

Graphics

- SiS 671 Mirage 3 Graphics solution
  - DX9 Shader Model 2.0 Dual Pixel Shading pipeline support
  - 1 VGA port on rear

PCI

- PCI Express Slot Type:
  - PCI Express x16 Slot Quantity: 1
  - PCI Express x1 Slot Quantity: 1
- PCI Slot Type : PCI 2.3, 5V Slots
- PCI Slot Quantity: 2

FDD

- Slot Quantity : 1
- Support 1.44MB 3.5” Devices

IDE

- Slot Type: 40 pin PATA IDE slot
- Slot Quantity: 1
- Transfer rate support:
  - PIO mode: 0/1/2/3/4
  - ATA mode: 33/66/100 port supported
- Slot Type: SATA slot
- Slot Quantity: 2
- Transfer rate support: SATA 1.5 Gb/s and SATA 3.0 Gb/s
- Storage Type support: HDD/CD-ROM/CD-RW/DVD-ROM/DVD-RW/DVD+RW/DVD Dual/DVD SuperMultiPlus

Audio

- Audio Type : HD audio codec
- Audio Channel : 7.1 channel
- Audio Controller /Codec : Realtek ALC883(Co-lay with Realtek ALC888)
- Support S/PDIF : S/PDIF out
- ATAPI analog line-level stereo inputs for AUX_IN

LAN

- Type : RealTek 8211B
- Supports 10/100/1000MB Ethernet environment
- Support power down mode

IEEE 1394 (Reserved)

- IEEE 1394 Controller : Ti TSB43AB23PDTG4
- IEEE 1394 Port : 1 for rear I/O port
- On board connector: 1(2x5 pin)

USB

- Controller : SiS 968
- USB Type : 2.0/1.1
- Connectors Quantity:
  - 4 for rear I/O ports
  - On-board header : 2 for front daughter board / 1 for sharing 2 rear USB port)

BIOS

- BIOS Type : Phoenix Award BIOS
- 4MB Flash BIOS
- Award PnP BIOS compatible with SM BIOS 2.4
- ACPI 2.0,

- Provides DMI 2.0, WFM 2.0, WOL, and SM Bus for system management.

I/O Connector

- Controller : Super I/O ITE 8718F-EX with hardware monitor

Rear I/O Connector

- 1 PS/2 Keyboard Port, 1 PS/2 Mouse Port
- 1 Parallel Port, 1 Serial Port
- 1 VGA Port
- 1 10/100/1000 LAN Port
- 4 USB Ports
- 6 jacks follow HD audio definition

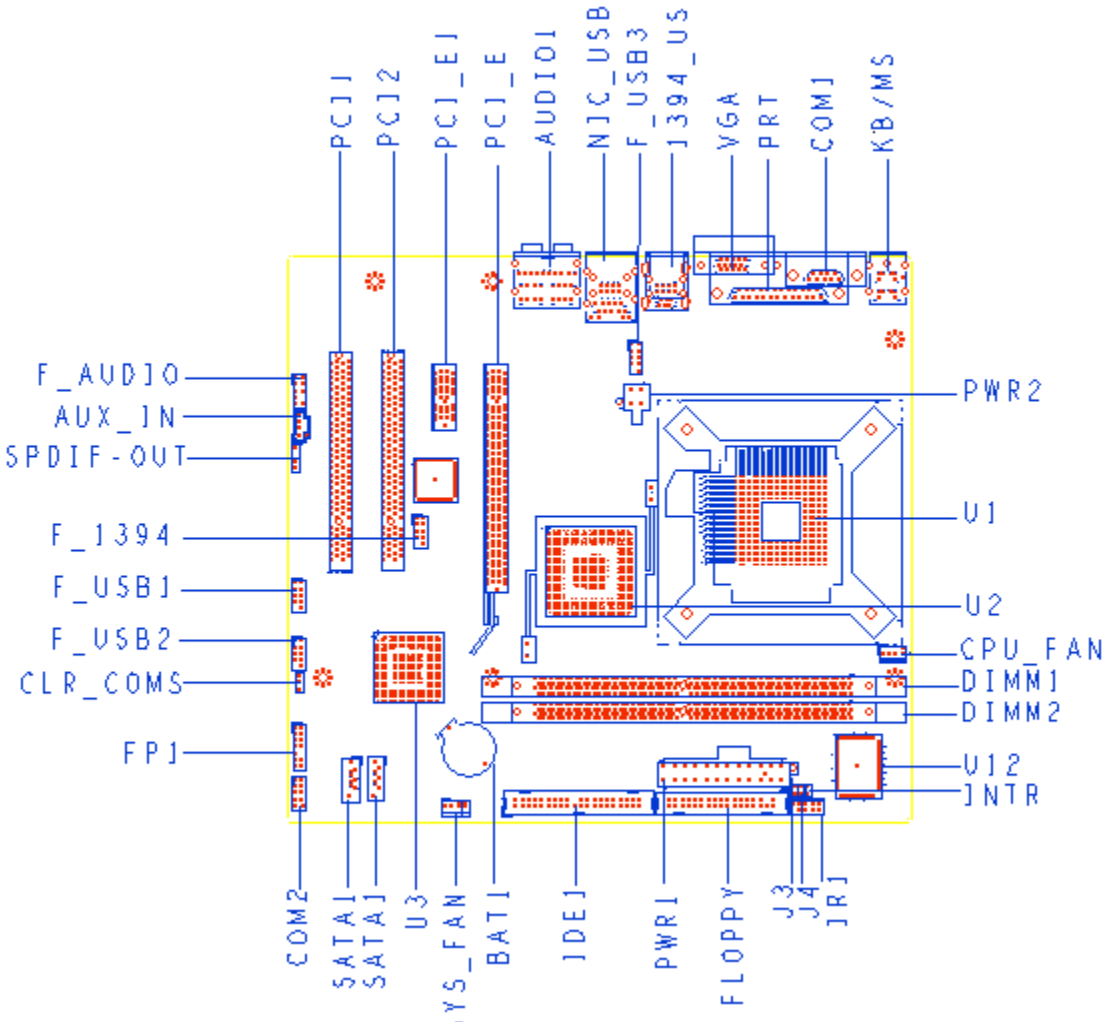
Onboard Connector

- 1 CPU socket
- 2 Memory slots
- 1 PCI Express x16 slot
- 1 PCI Express x1 slot
- 2 PCI slots
- 1 FDD slot
- 1 PATA IDE slot
- 2 SATA IDE connectors
- 3 2*5 pin Intel FPIO sepcification USB pin connectors.
- 1 2*5 pin Intel FPIO spec. Microphone In/Headphone Out pin connectors
- 1 serial port 2*5 pin connector
- 1 AUX-In 4pin connector
- 1 S/PDIF out 1*4pin connector
- 1 4pin CPU Fan connector
- 1 3pin system fan connector
- 1 24pin ATX interface PS3/PS2 SPS connector
- 1 2*7pin front panel IO header
- 2 reserved 2pin GPIO connector
- 1 on board buzzer
- 1 1*3 pin Clear COM pin
- 1 RM
- Color management for on board connector
- Reserve position for 1 2*5pin 1394 connector
- Reserved 1 2*5pin IRDA

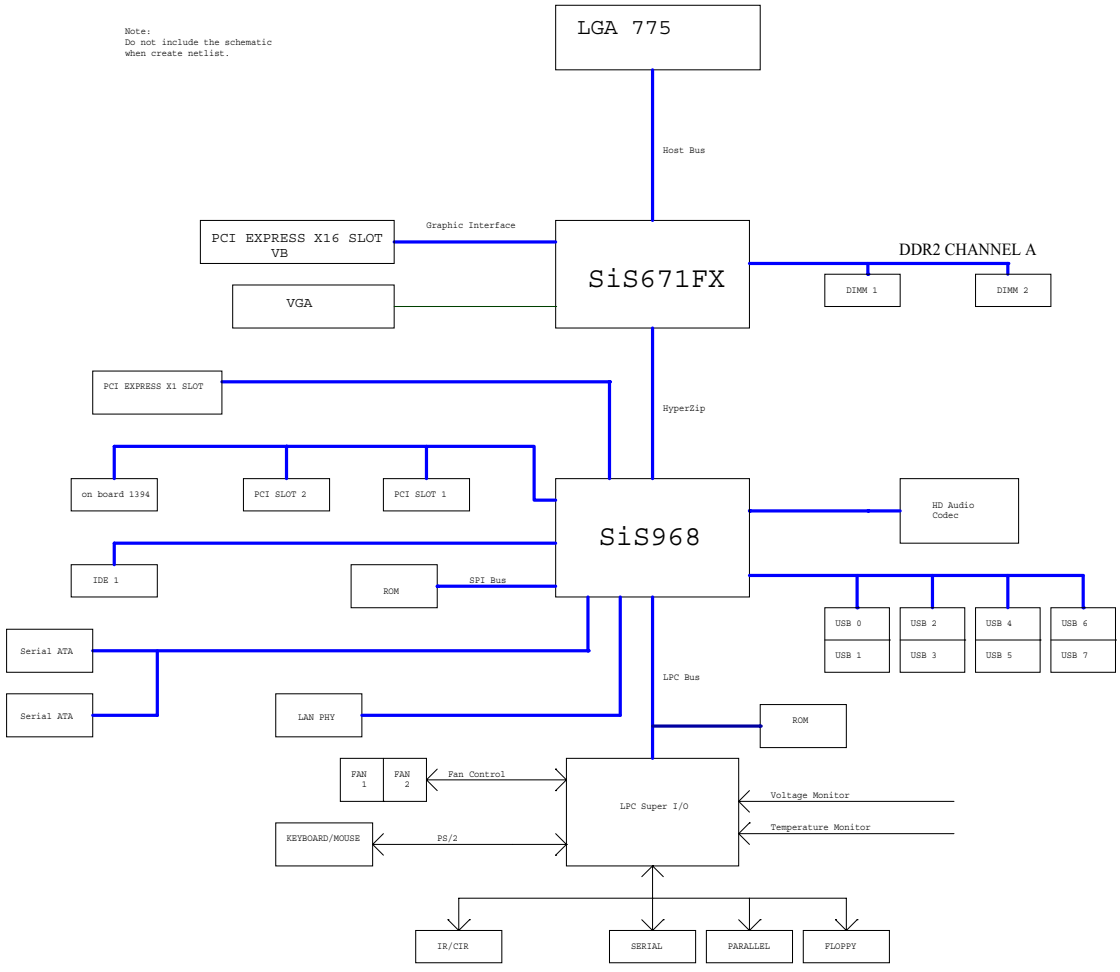
Power Supply

- PSP Type : 250W

Mainboard Placement

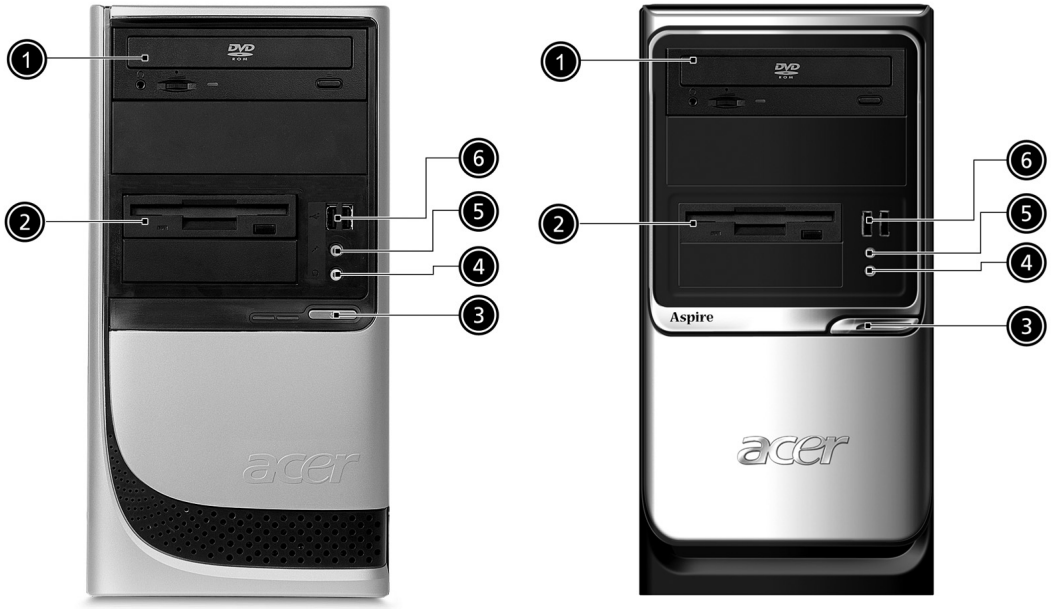


Block Diagram



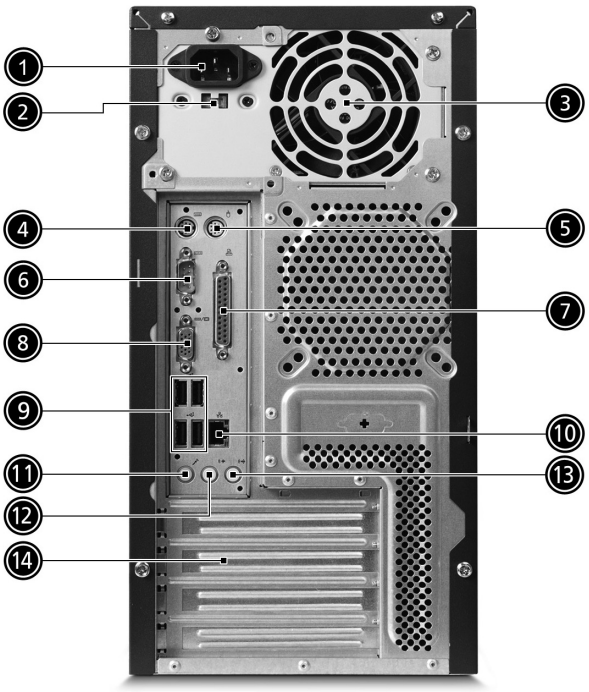
Aspire SA90 Front Panel

The computer's front panel consists of the following:



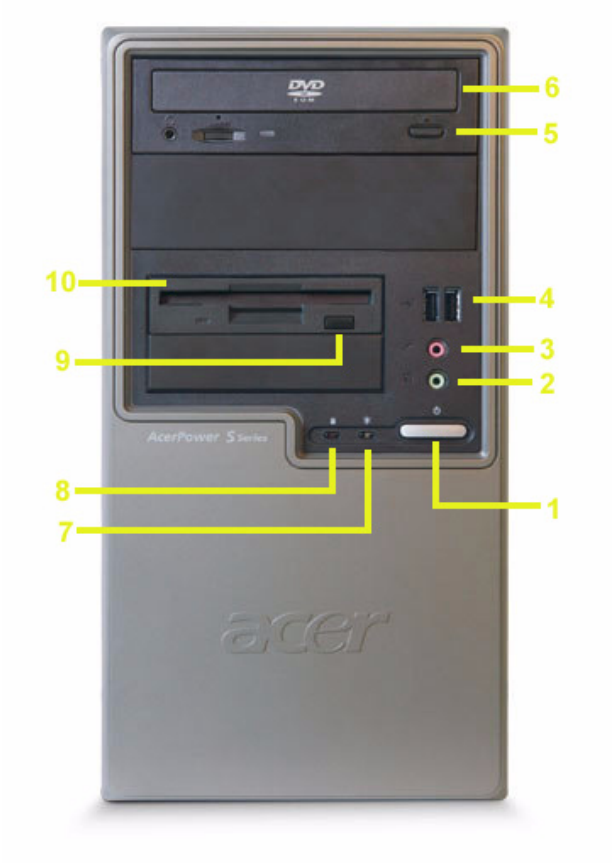
Label	Description
1	Optical drive
2	Floppy disk drive
3	Power button
4	Speaker or headphone jack
5	Microphone jack
6	USB ports

Aspire SA90 Rear Panel



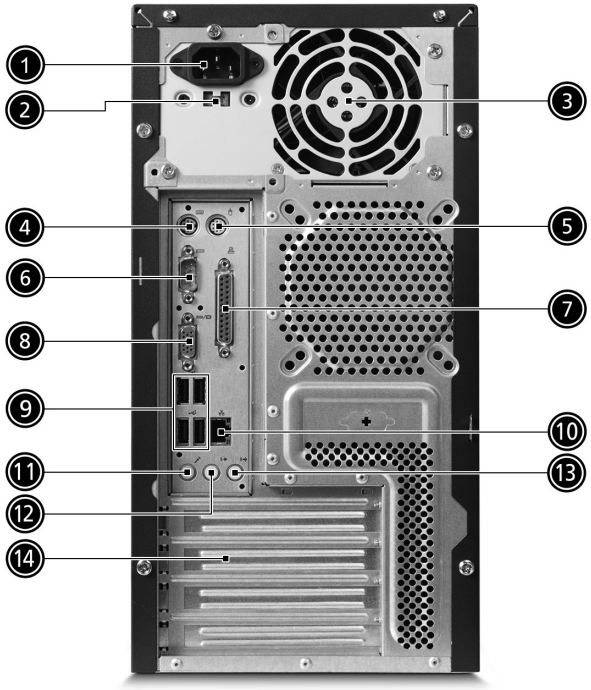
No.	Description	No.	Description
1	Power cord socket	2	Voltage selector switch
3	Fan aperture	4	PS/2 keyboard connector
5	PS/2 mouse connector	6	Serial port
7	Printer connector	8	Monitor connector
9	USB 2.0 ports	10	RJ-45 Ethernet connector
11	Microphone jack	12	Line-out Jack
13	Line-in jack	14	Extension card slots

AcerPower S290 Front Panel



Label	Description
1	Power-Button
2	Speaker-out/Line-out Port
3	Microphone-in out (Front)
4	USB Ports
5	Optical drive eject button
6	Optical drive
7	Power LED
8	HDD LED
9	Floppy drive eject button
10	Floppy disk drive

AcerPower S290 Rear Panel



No.	Description	No.	Description
1	Power cord socket	2	Voltage selector switch
3	Fan aperture	4	PS/2 keyboard connector
5	PS/2 mouse connector	6	Serial port
7	Printer connector	8	Monitor connector
9	USB 2.0 ports	10	RJ-45 Ethernet connector
11	Microphone jack	12	Line-out Jack
13	Line-in jack	14	Extension card slots

Processor

Item	Specification
Type	Intel Core 2 Duo / Intel Pentium 4/D / Intel Celeron
Socket	LGA 775
Speed	1.8~3.6G
FSB	1066/800/533 MHZ
Minimum operating speed	0 MHz (**If Stop CPU Clock in Sleep State in BIOS Setup** is set to **Enabled**.)

BIOS

Item	Specification
BIOS code programmer	Award
BIOS version	v6.0
BIOS ROM type	Flash ROM
BIOS ROM size	4MB
BIOS ROM package	32-pin DIP package
Support protocol	PCI 2.3, APM1.2, DMI 2.00.1, ACPI 2.0, SMBIOS 2.4
Device Boot Support	HDD/CDROM/Remote Network/USB/USB Flash
Support to LS-120 drive	Yes
Support to BIOS boot block feature	Yes

NOTE: The BIOS can be overwritten/upgraded by using the flash utility.

BIOS Hotkey List

Hotkey	Function	Description
c	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

Main Board Major Chips

Item	Controller
NorthBridge	SiS 671/671FX
SourthBridge	SiS 968
AGP controller	SiS 671/671FX
Super I/O controller	ITE8718Ex
Audio controller	Realtek ALC883
LAN controller	Realtek 8211B
HDD controller	ITE8718Ex
Keyboard controller	ITE8718Ex

Memory Combinations

Slot	Memory Module	Total Memory
Slot 1	128, 256, 512MB, 1GB	128MB~ 1GB
Slot 2	128, 256, 512MB, 1GB	128MB~ 1GB
Maximum System Memory Supported		128MB~2GB

System Memory

Item	Specification
Memory slot number	2 slot
Support memory size per socket	128MB/256MB/ 512MB/ 1GB
Support maximum memory size	2GB
Support memory type	DDR DRAM
Support memory interface	DDRII 400 MHz
Support memory voltage	2.5 V
Support memory module package	184-pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature	No
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup
Second-Level Cache Configurations	
L2 Cache RAM type	PBSRAM
L2 Cache RAM size	Celeron: 128K Intel P4: 256K/512K Core 2 Duo: 2/4 MB
L2 Cache RAM speed	One-half the processor core clock frequency
L2 Cache function control	Enable/Disable by BIOS Setup
L2 Cache scheme	Fixed in write-back

Audio Interface

Item	Specification
Audio controller	SiS 968
Audio controller Type	AC'97,ALC883

Audio Interface

Item	Specification
Audio Channel	7.1ch
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Resolution	20 bits
Compatibility	Sound Blaster Pro/16 compatible Mixed digital and analog high performance chip Enhanced stereo full duplex operation High performance audio accelerator and AC'97 support Full native DOS games compatibility Virtual FM enhances audio experience through real-time FM-to-Wavetable conversion MPU-401(UART mode) interface for wavetable synthesizers and MIDI devices Integrated dual game port Meets AC'97and WHQL specifications
Music synthesizer	Yes, internal FM synthesizer
Sampling rate	48 KHz (max.)
MPU-401 UART support	Yes
Microphone jack	Supported
Headphone jack	Supported

IDE Interface

Item	Specification
IDE controller	SiS 968
IDE controller resident bus	PCI bus
Number of IDE channel	40 pin PATA x 1 SATA x 2
Support IDE interface	E-IDE (up to PIO mode-4 and Ultra DMA 33/66/100), ANSIS ATA rev.3.0 ATAPI
Support bootable CD-ROM	Yes

Floppy disk drive Interface

Item	Specification
Floppy disk drive controller	ITE8718Ex
Floppy disk drive controller resident bus	ISA bus
Support FDD format	360KB, 720KB, 1.2MB, 1.44MB, 2.88MB

Parallel Port

Item	Specification
Parallel port controller	ITE8718Ex
Parallel port controller resident bus	ISA bus
Number of parallel ports	1
Support ECP/EPP	SPP / Bi-directional / ECP / EPP
Connector type	25-pin D-type female connector
Parallel port function control	Enable/disable by BIOS Setup
Optional ECP DMA channel (in BIOS Setup)	DMA channel 1 DMA channel 3
Optional parallel port I/O address (via BIOS Setup)	378h 278h
Optional parallel port IRQ (via BIOS Setup)	IRQ5 IRQ7

Serial Port

Item	Specification
Serial port controller	ITE8718Ex
Serial port controller resident bus	ISA bus
Number of serial port	2
16550 UART support	Yes
Connector type	9-pin D-type female connector
Optional serial port I/O address (via BIOS Setup)	COM1: 2F8h, 3E8h, 2E8h COM2: 3E8h, 3F8h, 2F8h
Optional serial port IRQ (via BIOS Setup)	COM1: IRQ 3, and 4 COM2: IRQ 4, and 3

USB Port

Item	Specification
Universal HCI	USB 2.0
USB Class	Support legacy keyboard for legacy mode
USB Connectors Quantity	4 for rear I/O ports, 3 on-board headers

Environmental Requirements

Item	Specifications
Temperature	
Operating	+5°C ~ +35°C
Non-operating	-20 ~ +60°C (Storage package)
Humidity	

Environmental Requirements

Item	Specifications
Operating	15% to 80% RH
Non-operating	10% to 90% RH
Vibration	
Operating (unpacked)	5 ~ 500 Hz:2.20g RMS random, 10 minutes per axis in all 3 axes 5 ~500 Hz: 1.09g RMS random, 1 hour per axis in all 3 axes

Power Management

Devices	S1	S3	S4	S5
Power Button	ν	ν	ν	ν
USB Keyboard /Mouse	ν	ν	N/A	N/A
PME	Disabled	Disabled	Disabled	Disabled
RTC	Disabled	Disabled	Disabled	Disabled
WOR	Disabled	Disabled	Disabled	Disabled

- Devices wake up from S3 should be less than 5 seconds
- Devices wak up from S5 should be less than 10 seconds

Power Management Function (ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).
- Resume recovery time: 3-5 sec.

Global Standby Mode

- Global power management timer (2-120 minutes, time step=10 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Resume recovery time: 7-10 sec.

Suspend Mode

- Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external switch button.
- CPU goes into SMM.
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on the panel turns amber colour.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Ultra I/O and VGA chip go into power saving mode.
- Resume method: Return to original state by pushing external switch button, modem ring in, keyboard and mouse for APM mode.
- Return to original state by pushing external switch button, modem ring in and USB keyboard for ACPI mode.

ACPI

- ACPI specification 1.0b.
- S0, S1, S3 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

System Utilities

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad/flat. In this case, the system cannot retain configuration values in CMOS.

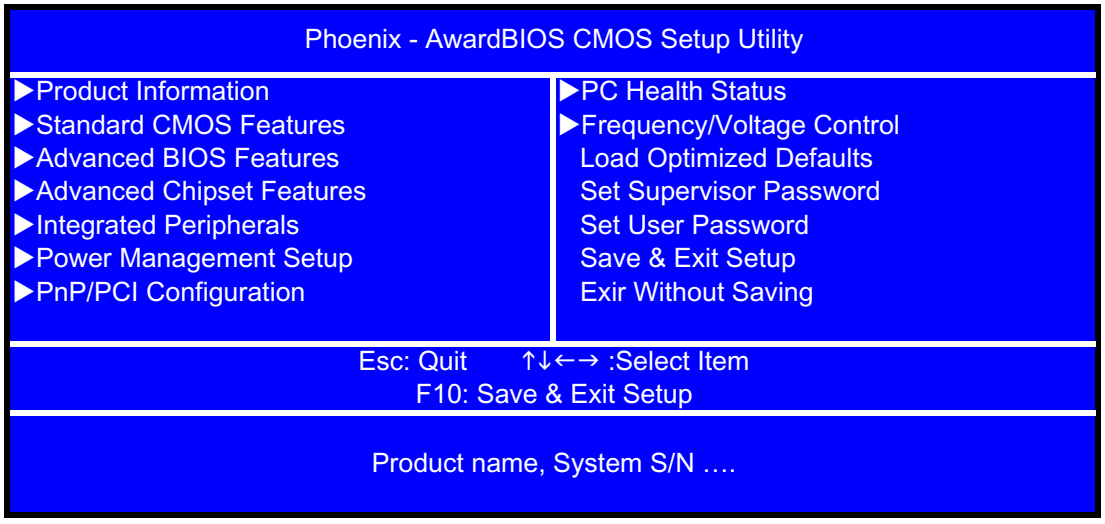
Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

Entering Setup

Power on the computer and the system will start POST (Power On Self Test)process. When the message of "`Press DEL to enter SETUP`" appears on the screen, press the key of [Delete] to enter the setup menu.

NOTE: If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On. You may also restart the system by simultaneously pressing [Ctrl+Alt+Delete].

The Setup Utility main menu then appears:



The command line at the bottom of the menu tells you how to move within a screen and from one screen to another.

- To select an option, move the highlight bar by pressing ↑ or ↓ then press ENTER.
- To change a parameter setting, press ← or → until the desired setting is found.
- Press ESC to return to the main menu. If you are already in the main menu, press ESC again to exit Setup.

The parameters on the screens show default values. These values may not be the same as those in your system.

The grayed items on the screens have fixed settings and are not user-configured.

NOTE: Due to the application of a new version of BIOS Setup program, you may find the BIOS menu is largely different from the former models. However, you will soon find out that this version is much more compact than the former ones.

The items in the main menu are explained below:

- ***Product Information***

  To introduce the Product Name,System P/N and MainBoard ID...etc.

- ***Standard CMOS Features***

  The basic system configuration can be set up through this menu.

- ***Advanced BIOS Features***

  The advanced system features can be set up through this menu.

- ***Advancted Chipset Features***

  The values for the chipset can be changed through this menu, and the system performance can be optimized.

- ***Integrated Peripherals***

  All onboard peripherals can be set up through this menu.

- ***Power Management Setup***

  All the items of Green function features can be set up throgh this menu.

- ***PnP/PCI Configurations***

  The system's PnP/PCI settings and parameters can be modified through this menu.

- ***PC Health Staus***

  This will display the current status of your PC.

- ***Frequency/Voltage Control***

  Frequency and voltage settings can be loaded through this menu.

- ***Load Default Settings***

  These parameter settings can be loaded through this menu, however, the stable default values may be affected.

- ***Set Supervisor/User Password***

  The supervisor/user password can be set up through this menu.

- ***Save & Exit Setup***

  Save CMOS value settings to CMOS and exit setup.

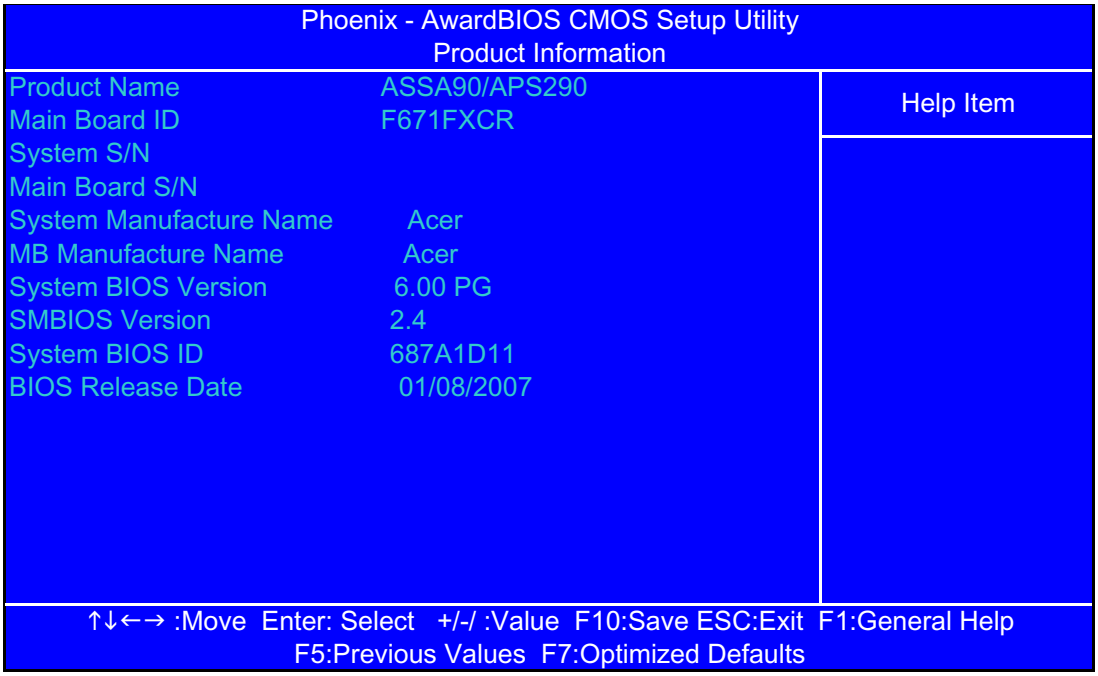
- ***Exit Without Saving***

  Abandon all CMOS value changes and exit setup.

Product Information

The screen below appears if you select Product Information from the main menu:

The Product Information menu contains general data about the system, such as the product name, serial number, BIOS version, etc. These information is necessary for troubleshooting (maybe required when asking for technical support).


Phoenix - AwardBIOS CMOS Setup Utility
Product Information
Product Name ASSA90/APS290
Main Board ID F671FXCR
System S/N
Main Board S/N
System Manufacture Name Acer
MB Manufacture Name Acer
System BIOS Version 6.00 PG
SMBIOS Version 2.4
System BIOS ID 687A1D11
BIOS Release Date 01/08/2007
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

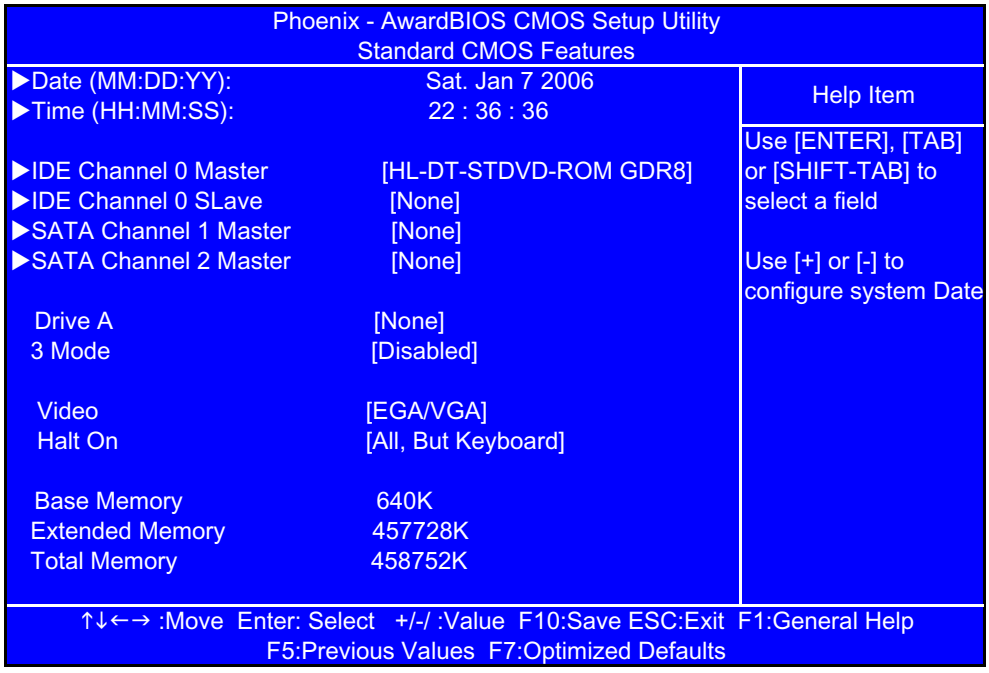
The following table describes the parameters found in this menu:

Parameter	Description
Product Names	Displays the model name of your system.
System S/N	Displays your system's serial number.
Main Board ID	Displays the main board's identification number.
Main Board S/N	Displays your main board's serial number.
System BIOS Version	Specifies the version of your BIOS utility.
SMBIOS version	The System Management Interface (SM) BIOS allows you to check your system hardware components without actually opening your system. Hardware checking is done via software during start up. This parameter specifies the version of the SMBIOS utility installed in your system.
BIOS Release Date	Displays the BIOS latest release date

Standard CMOS Features

Select Standard CMOS Features from the main menu to configure some basic parameters in your system.

The following screen shows the Standard CMOS Features menu:


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
▶Date (MM:DD:YY): Sat. Jan 7 2006
▶Time (HH:MM:SS): 22 : 36 : 36
▶IDE Channel 0 Master [HL-DT-STDVD-ROM GDR8]
▶IDE Channel 0 SLave [None]
▶SATA Channel 1 Master [None]
▶SATA Channel 2 Master [None]
Drive A [None]
3 Mode [Disabled]
Video [EGA/VGA]
Halt On [All, But Keyboard]
Base Memory 640K
Extended Memory 457728K
Total Memory 458752K
Help Item
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field
Use [+] or [-] to configure system Date
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

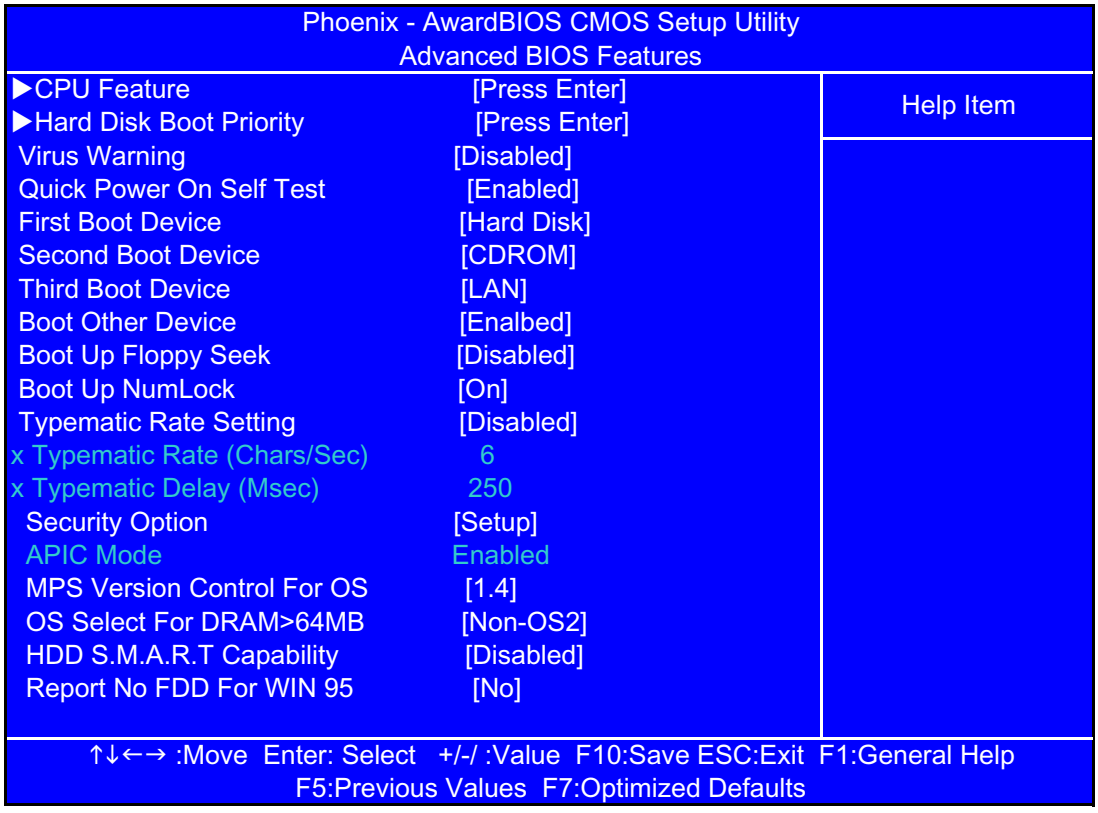
The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	Weekday: Sun, Mon...Sat Month: Jan., Feb...Dec. Day: 1 to 31 Year: 1999 to 2098
Time	Lets you set the time following the hour-minute-second format	Hour: 0 to 23 Minute: 0 to 59 Second: 0 to 59
IDE Channel 0/1 Master/Slave/	Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below. Please noted that if you choose IDE Channel 2/3 Master, the item may change to Extended IDE Drive.	IDE Device Model Number: None
SATA Channel 1/2 Master	This item display the status of auto detection of SATA devices.	
Drive A	Allows you to configure your floppy drive A.	None 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch **1.44M, 3.5 - inch** 2.88 MB, 3.5-inch

Parameter	Description	Options
Drive B	Allows you to configure your floppy drive B.	**None** 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 1.44M, 3.5 - inch 2.88 MB, 3.5-inch
Floppy 3 Mode Support	Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.	**Disabled**
Video	This item specifies the type of video card in use. The default setting is VGA/EGA. Since current PCs use VGA only, this function is almost useless and may be disregarded in the future.	**VGA/EGA** CGA40 CGA80 Mono
Halt On	This parameter enables you to control the system stops in case of Power On Self Test errors (POST).	All Errors No Errors **All, but Keyboard** All, but Diskette All, by Disk/Key
Base Memory	Refers to the option of memory that is available to standard DOS programs. DOS systems have an address space od 1MB, but the top 384KB (called high memory) is reserved for system use. This leaves 640 KB of conventional memory. Everything above 1MB is either extended or extended memory.	The BIOS POST will determine the amount of base (or conventional) memory installed in the sytem.
Extended Memory	Memory above and beyond the standard 1MB of base memory that DOS supports. Extended memory is only available in PCs with an Intel 80286 or later microprocessor. Extended memory is not configured in any special manner and is therefore unavailable to most DOS programs. However, MS Windows and OS/2 can use extended memory.	The BIOS determines how much extended memory is present during the POST.
Total Memory	Total based and extended memory, and I/O ROM 384KB available to the system.	total memory of the system.

Advanced BIOS Features

The following screen shows the Advanced BIOS Features:


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
▶CPU Feature [Press Enter]
▶Hard Disk Boot Priority [Press Enter]
Virus Warning [Disabled]
Quick Power On Self Test [Enabled]
First Boot Device [Hard Disk]
Second Boot Device [CDROM]
Third Boot Device [LAN]
Boot Other Device [Enalbed]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock [On]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode Enabled
MPS Version Control For OS [1.4]
OS Select For DRAM>64MB [Non-OS2]
HDD S.M.A.R.T Capability [Disabled]
Report No FDD For WIN 95 [No]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

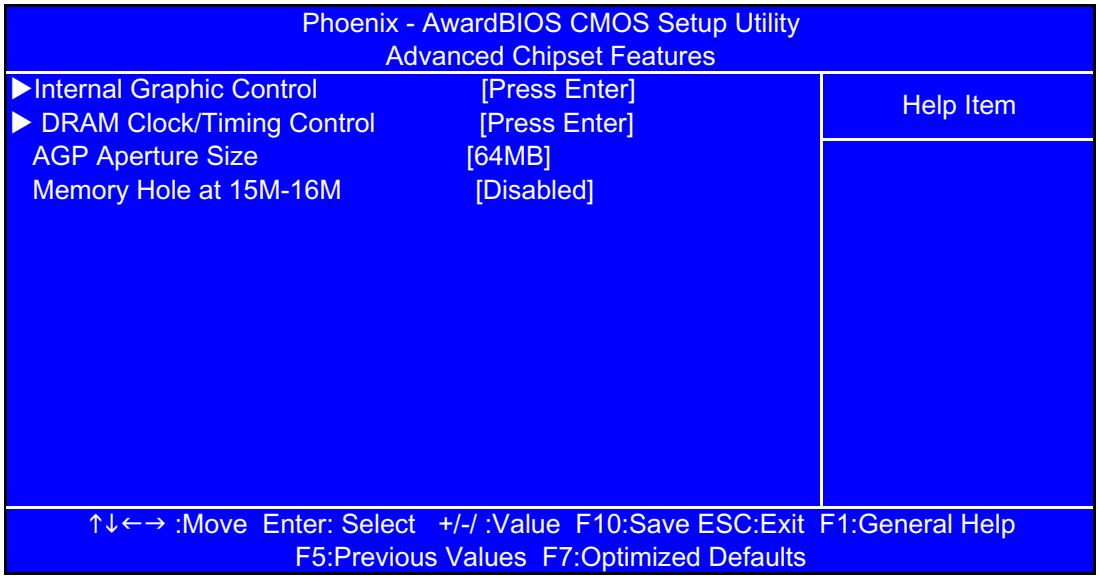
Parameter	Description	Options
Silent Boot	Display Full Screen LOGO during POST	**Enabled** Disabled
Configuration Table	Enable the Configuration Table function	Enabled **Disabled**
CPU Feature	Select to display CPU Feature	**Press [Enter]**
Hard Disk Boot Priority	Select Hard Disk Boot Device Priority	**Press [Enter]**
Virus Warning	Enable this item to detect the virus in POST mode.	Enabled **Disabled**
Quick Power On Self Test	This parameter speeds up POST by skipping some items that are normally checked.	**Enabled** Disabled
First /Second/Third Boot Device	The items allow you to set the sequence of boot device where BIOS attempts to load the disk operating system.	Floppy, LS120, Hard Disk, CD-ROM, ZIP100, USB-FDD, USB-ZIP, LAN, Disabled (Disable this sequence). The sequence following the order of Floppy, HDD and CD-ROM is recommended.
Boot Other Device	This parameter allows you to specify the system boot up search sequence.	**Enabled** Disabled
Swap Floppy Drive	Setting to Enabled will swap floppy drive a: and b:.	Enabled **Disabled**

Parameter	Description	Options
Boot Up Floppy Seek	Setting to Enabled will make BIOS seek floppy drive a: before booting the system.	**Enabled** Disabled
Boot Up NumLock Status	Sets the NumLock status when the system is powered on. Setting to On will turn on the NumLock key when the system is powered on. Setting to Off will allows users to use the arrow keys on the numeric keypad.	**On** Off
Typematic Rate Setting	This item is used to enable or disable the typematic rate setting including Typematic Rate and Typematic Delay.	Enabled **Disabled**
Typematic Rate (Chars/Sec)	Use this item to define how many characters per second are generated by a held-down key.	
Typematic Delay (Msec)	Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.	
Security Option	Specifies the type of BIOS password protection that is implemented. Setup means that the password prompt appears only when end users try to run Setup. System means that a password prompt appears every time when the computer is powered on or when end users try to run Setup.	**Setup** System
APIC Mode	This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources from the system.	**Enabled** Disabled
MPS Version Control For OS	This item displays MPS version control for OS.	**1.4**
OS Select For DRAM > 64MB	This item is only required if you have installed more than 64MB of memory and you are running the OS/2 operating system.	**Non-OS2** OS2
HDD S.M.A.R.T Capability	The S.M.A.R.T (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance.	Enabled **Disabled**
Video BIOS Shadow	This item determines whether the BIOS will be copied to RAM for faster execution.	**Enabled** Disabled

The advanced chipset features setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

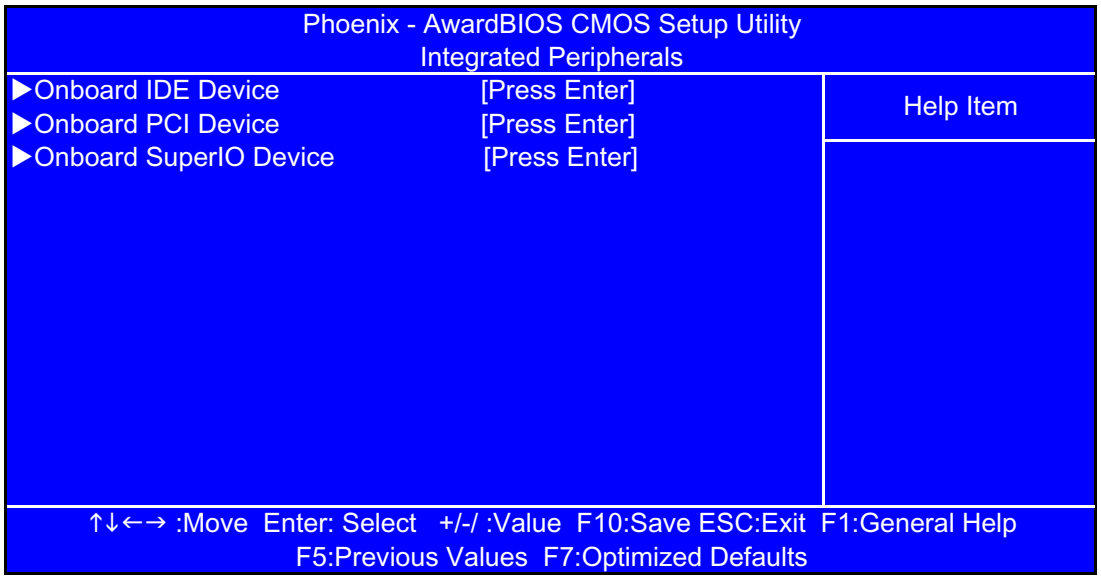
NOTE: Change these settings only if you are familiar with the chipset.

Advanced Chipset Features


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
▶Internal Graphic Control [Press Enter]
▶ DRAM Clock/Timing Control [Press Enter]
AGP Aperture Size [64MB]
Memory Hole at 15M-16M [Disabled]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

Parameter	Description	Option
Internal Graphic Control	This submenu is used to set some parameters of graphice memory controller.	**[Press Enter]**
AGP Aperture Size	This item define the size of aperture if you use a graphics adapter	32,**64,**128,256,512 MB
OnChip AGP Control	This submenu is used to set some parameters of on board VGA	**[Press Enter]**
Memory Hole at 15M-16M	In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB.	15-16MB 14-16MB **Disabled**

Integrated Peripherals

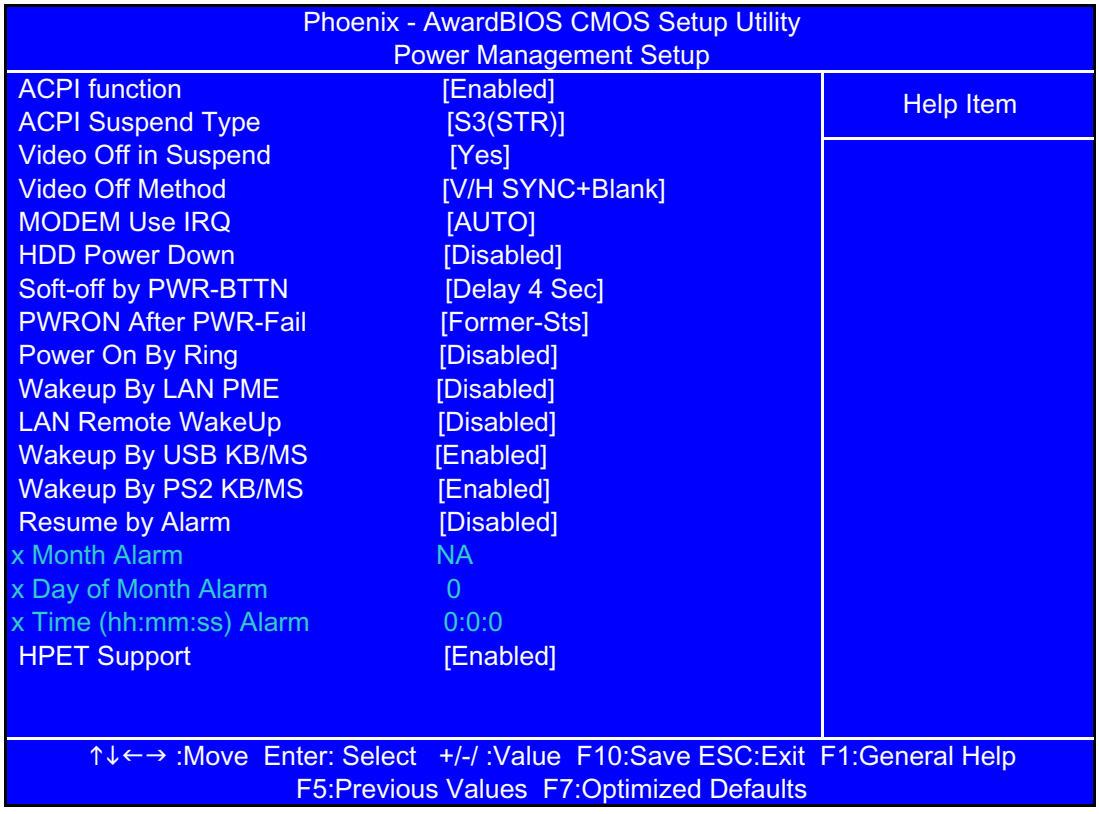

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
▶Onboard IDE Device [Press Enter]
▶Onboard PCI Device [Press Enter]
▶Onboard SuperIO Device [Press Enter]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

Parameter	Description	Option
Onboard IDE Device	Use the arrow keys to select your options; press <**Enter**> key to enter the setup sub-menu. The options and setting methods are discussed below.	**[Press Enter]**
Onboard PCI Device		**[Press Enter]**
Onboard Super IO Device		**[Press Enter]**

Power Management

The Power Management menu lets you configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

The following screen shows the Power Management parameters and their default settings:


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S3(STR)]
Video Off in Suspend [Yes]
Video Off Method [V/H SYNC+Blank]
MODEM Use IRQ [AUTO]
HDD Power Down [Disabled]
Soft-off by PWR-BTTN [Delay 4 Sec]
PWRON After PWR-Fail [Former-Sts]
Power On By Ring [Disabled]
Wakeup By LAN PME [Disabled]
LAN Remote WakeUp [Disabled]
Wakeup By USB KB/MS [Enabled]
Wakeup By PS2 KB/MS [Enabled]
Resume by Alarm [Disabled]
x Month Alarm NA
x Day of Month Alarm 0
x Time (hh:mm:ss) Alarm 0:0:0
HPET Support [Enabled]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

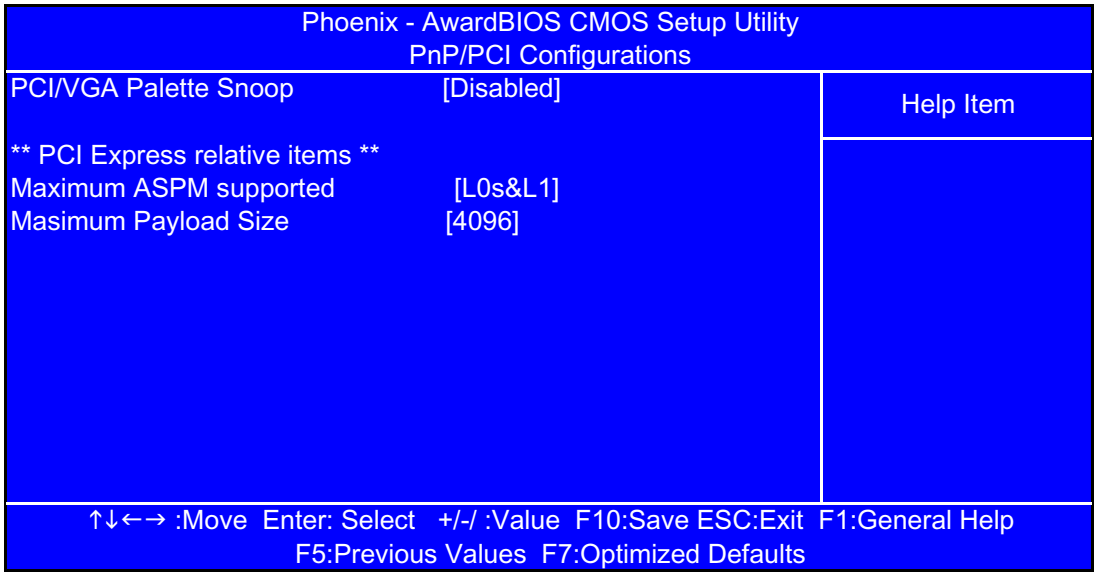
The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
ACPI Function	This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI aware, such as Windows 98SE/2000/Me, select Enabled.	**Enabled** Disabled

Parameter	Description	Options
ACPI Suspend Type	This item specifies the power saving modes for ACPI function. S1(POS): The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context. S3 (STR): The S3 sleep mode is s power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory. The information stored in memory will be used to restore the PC to the previous state when an *wake-up* event occurs. S1&S3: Both S1 and S3 will be adopted.	S1 (POS) **S3 (STR)** S1&S3
Suspend Mode	The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected.	**Disabled** 1/2/4/8/12/20/30/40 mins 1 Hour
Video Off Option	This option is used to set video off option. The setting values are always on, suspend> off, susp,stby>off, and all modes>off.	Always On Suspend --> Off **Susp, Stby --> Off** All Modes --> Off
Video Off Method	This item determines the manner in which the monitor is blanked. V/H SYNC+Blank: This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. Blank Screen: This option only write blanks to the video buffer. DPMS Supported: Initial display power management signaling.	Blank Screen **V/H SYNC+Blank** DPMS
Mode Use IRQ	This setting names the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of selected IRQ always awakens the system.	Auto **3**,4,5,7,9,10,11
HDD Power Down	This option is used to define the continuous HDD idle time before the HDD enters power saving mode. The setting values are disabled and 1 min to 15 min.	**Disabled** 1,2,3,4,5,6,7,8,9,10,11,12,13, 14,15 Min
Soft-off by PWR-BATTN	This option is used to set the power down method. This function is only valid for systems using an ATX power supply. When ““nstant off” is selected, press the power switch to immediately turn off power. When “delay 4 sec” is selected, press and hole the power button for four seconds to turn off power.	Instand Off Delay 4 Sec.
PWRON After PWR-Fail	This item allow user set the machine power state when connect the AC power. "Always off" means the machine is always off when power on; "Always on" means the machine will always power on when connect the AC power; "Pre-State" means the machine state is the same as the last state.	Always Off Always On **Pre-State**

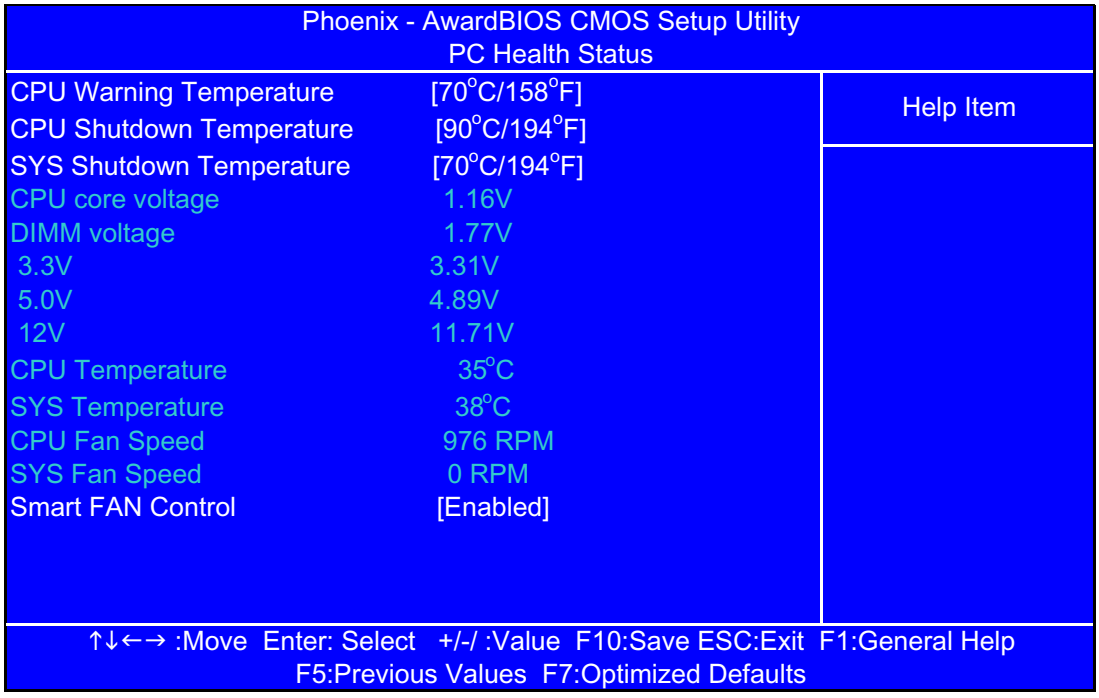
Parameter	Description	Options
PM Wake Up Events	Disabled: The specified event's activity will not affect the PM Timers/wake up the system. Enabled: The specified event's activity will affect the PM Timers/wake up the system. For example, if you have a modem on IRQ3, you can turn On IRQ3 as a wake-up event, so an interrupt from the modem can wake up the system. Or you may wish to turn Off IRQ12 (the PS/2) mouse as a wake-up event, so accidentally brushing the mouse does not awaken the system.	**[Press Enter]**
Delay Prior to Thermal	Enables you to set the delay time before the CPU enters auto thermal mode	**None** 1/2/4/8/16/32/64 Min

PnP/PCI Configuration


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
PCI/VGA Palette Snoop [Disabled]
** PCI Express relative items **
Maximum ASPM supported [L0s&L1]
Masimum Payload Size [4096]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

Parameter	Description	Options
Reset Configuration Data	Selecting “Enabled” to reset Extended System Configuration Data (ESCD) only if you installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. Otherwise, you should leave it unchanged.	**Disabled** Enabled
Resources Controlled By	This BIOS can automatically configure all of the boot and Plug and Play compatible devices. You can also set it as Manual and go into each of the sub menu to choose specific resources.	**Auto (ESCD)** Manual
IRQ Resources	The items are adjustable only when “Resources Controlled By” is set to Manual. By pressing “Enter” to access the sub menu.	**Press Enter**
PCI/VGA Palette Snoop	Disabled - Data read or written by the CPU is only directed to the PCI VGA device’s palette registers. Enabled - Data read or written by the CPU is directed to both the PCI VGA device’s palette registers and the ISA VGA device’s palette registers, permitting the palette registers of both VGA devices to be identical.	**Disabled** Enabled *If any ISA bus adapter in the system requires VGA Palette snooping, the setting must be set to “Enabled”.
Maximum Payload Size	This item specifies the maximum payload size for the PCI Express function.	**4096**

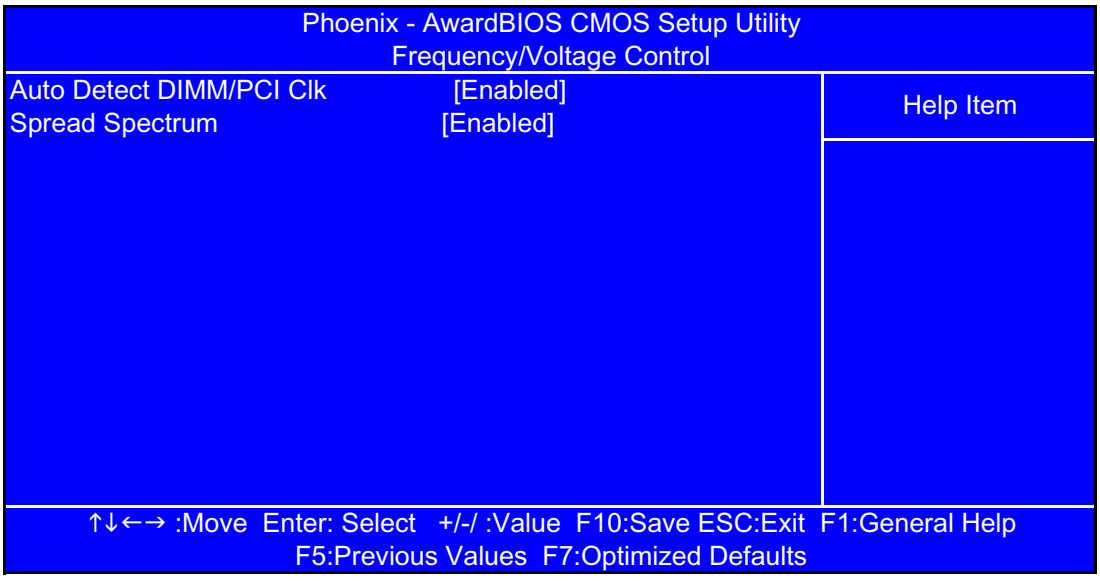
PC Health Status



The following table describes the parameters found in this menu:

Parameter	Description	Options
CPU Warning Temperature	This item lets you select the temperature at which you want the system to send out a warning message to the PC speakers of when the temperature goes beyond either limit.	Disabled
Smart FAN Control	Enable smart fan control function. --When the CPU temperature is higer than 65 degrees Celsius, CPU fan will run at full speed. --The speed of CPU fan will increase linearly depand on the temperature if the temperature is more than 41 degree and less than 65 degree. --When the CPU temperature is lower than 40 degrees Celsius, CPU fan will be disable.	Enabled Disabled
CPU Shutdown Temp.	This option is for setting the shutdown temperature level for the processor. When the processor reaches the temperature you set, the ACPI-aware system will be shut down.	

Frequency/Voltage Control


Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
Auto Detect DIMM/PCI Clk [Enabled]
Spread Spectrum [Enabled]
Help Item
↑↓←→ :Move Enter: Select +/-/ :Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F7:Optimized Defaults

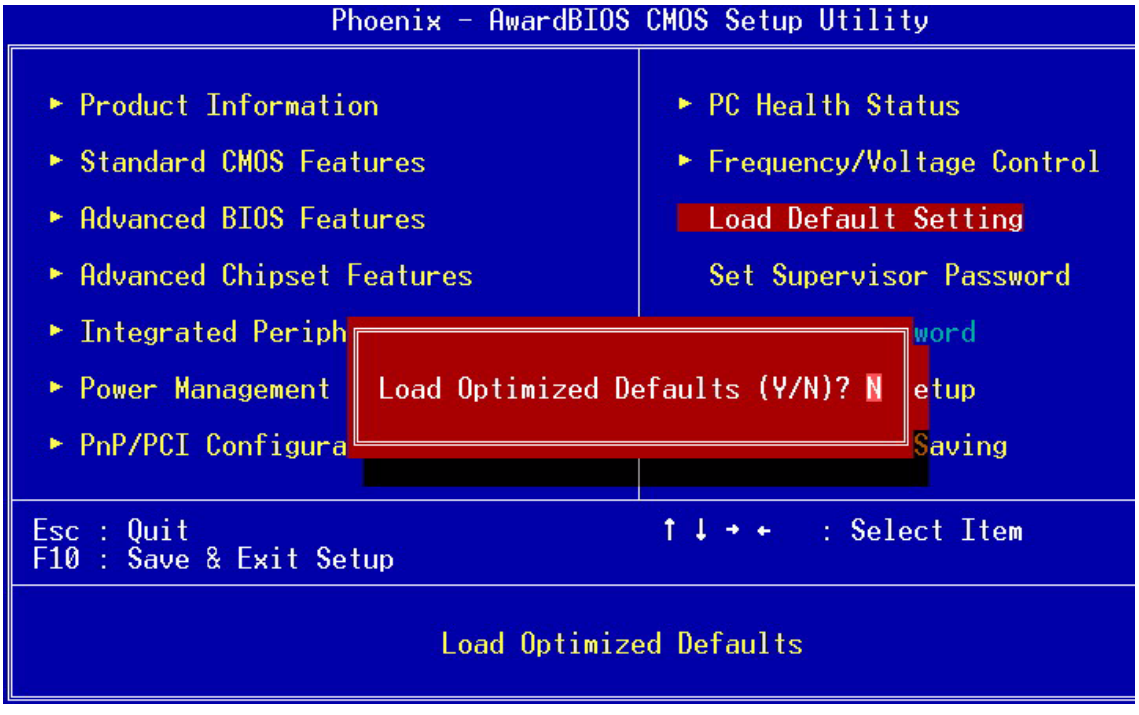
The following table describes the parameters found in this menu. Settings in **boldface** are the default and suggested settings.

Parameter	Description	Options
Auto Detect DIMM/PCI Clk	This option allows you to enable/disable the feature of auto detecting the clock frequency of the installed PCI bus.	Enabled **Disabled**
Spread Spectrum	When the motherboard's clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. If you do not have any EMI problem, leave the setting at Disabled for optimal system stability and performance. But if you are plagued by EMI, setting to Enabled for EMI reduction. Remember to disable Spread Spectrum if you are overlocking because even a slight jitter can introduce a temporary boost in clockspeed which may just cause your overlock ed processor to lock up.	**Enabled**

when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option.

Load Default Settings

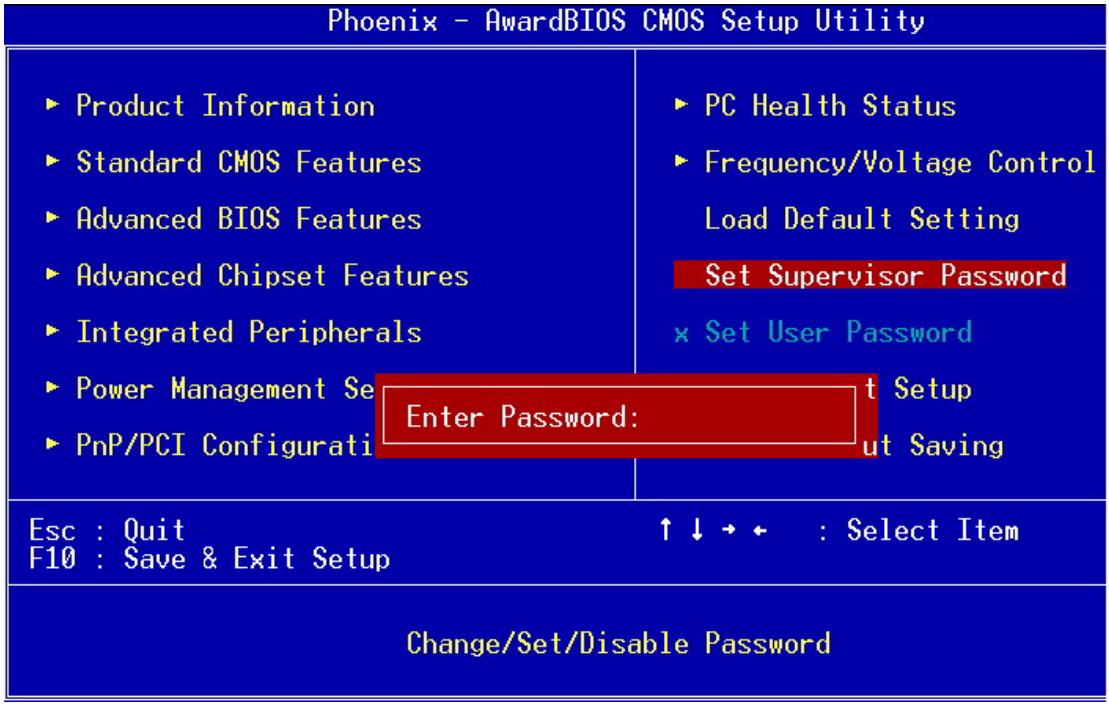
This option opens a dialog box that lets you install defaults for all appropriate items in the Setup Utility.



Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.



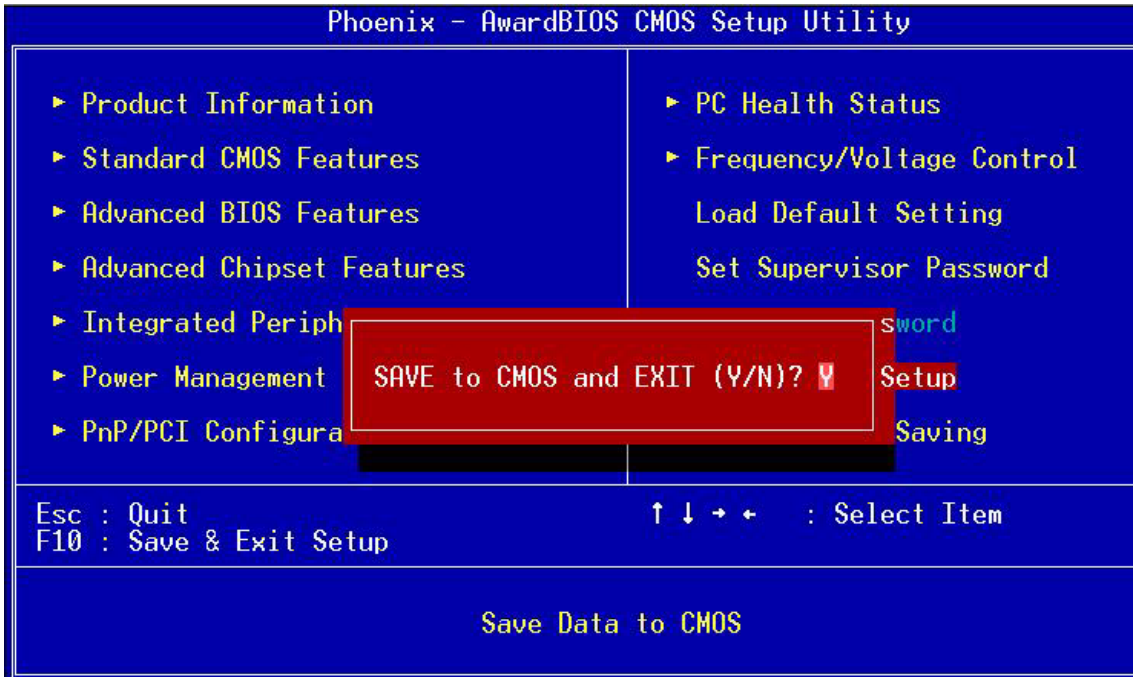
Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup

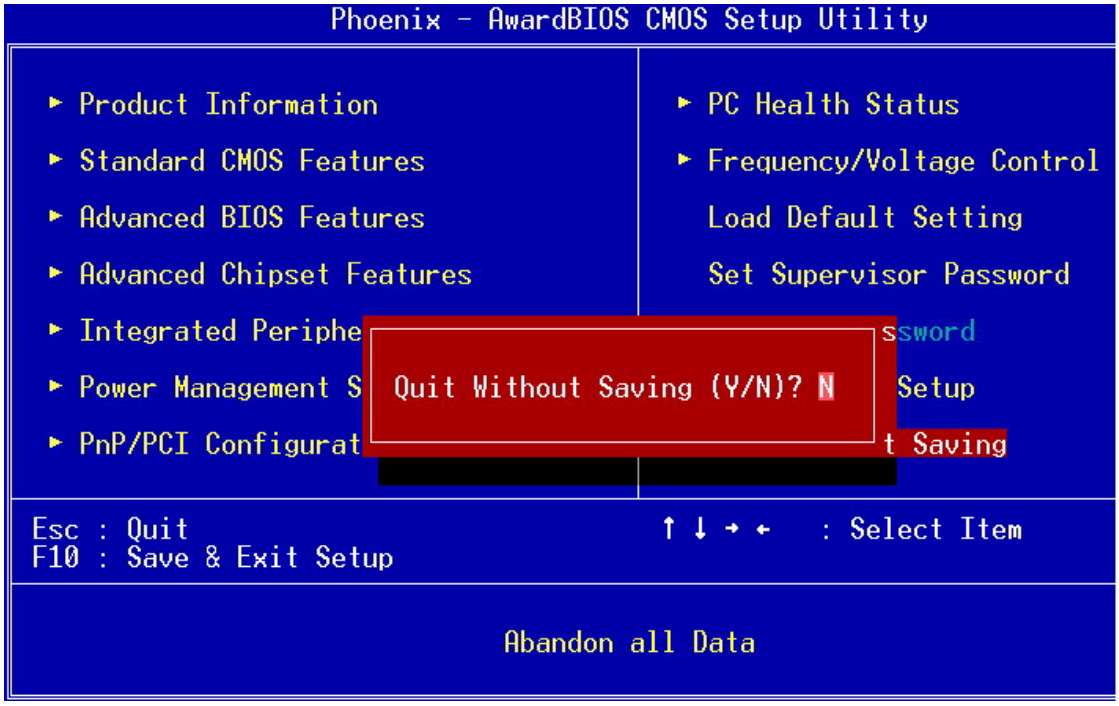
Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.



When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.



When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

Machine Disassembly and Replacement

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge.
- Wire cutter.
- Phillips screwdriver (may require different size).

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

General Information

Before You Begin

Before proceeding with the disassenbly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

Disassembly Procedure

This section tells you how to disassemble the system when you need to perform system service. Please also refer to the disassembly video, if available.

CAUTION: Before you proceed, make sure you have turned off the system and all peripherals connected to it.

AcerPower S290 Standard Disassembly Process

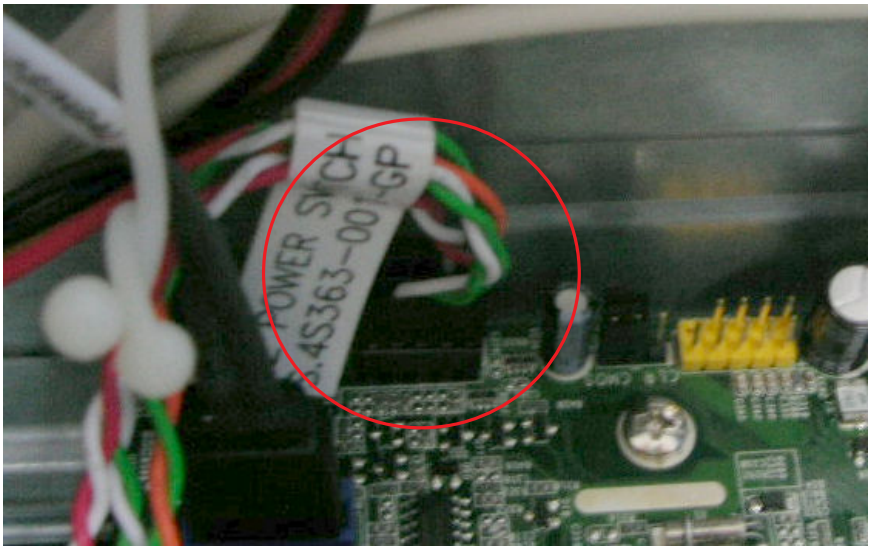
1.Open the computer.

1-1. Place the system unit on a flat, steady surface.

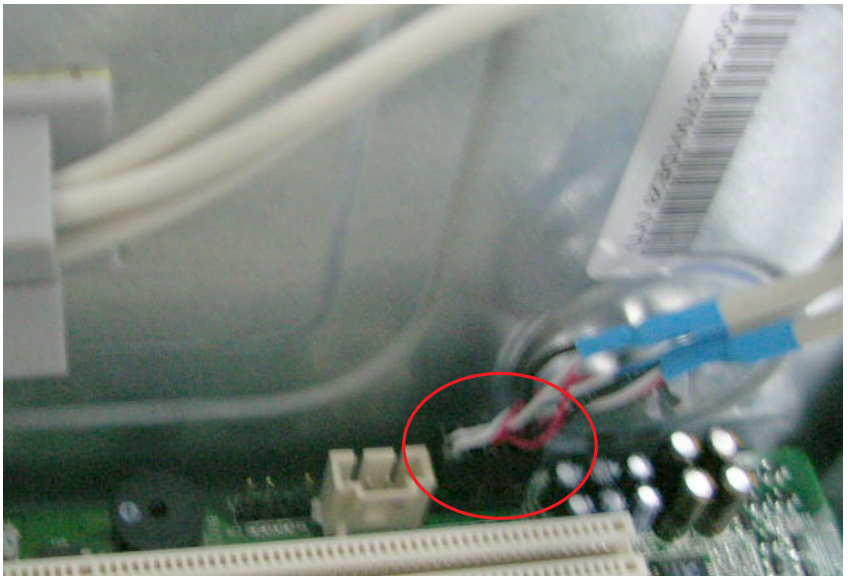
1-2. Release the Lock-handle then slide the left side door out.

4.Disconnect the cables

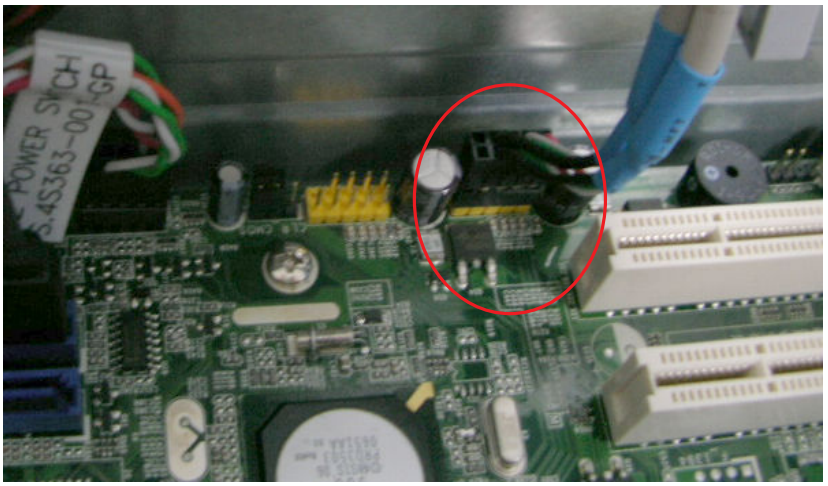
4-2.Disconnect the front bezel LED cable.



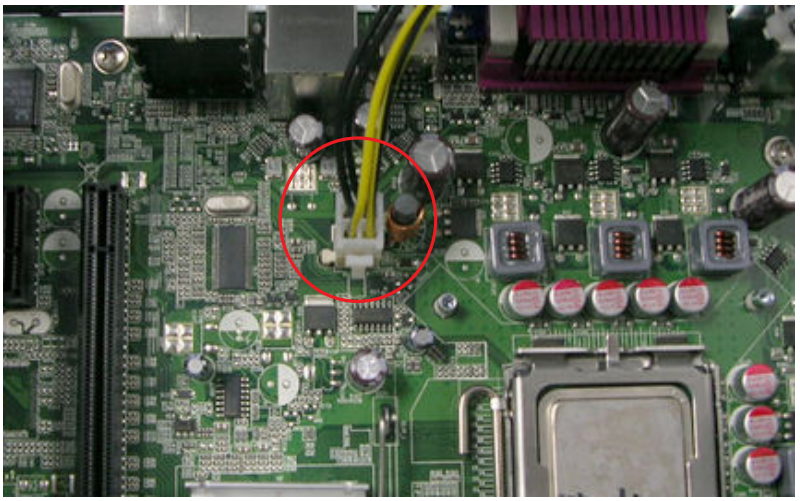
4-4.Disconnect the audio cables.



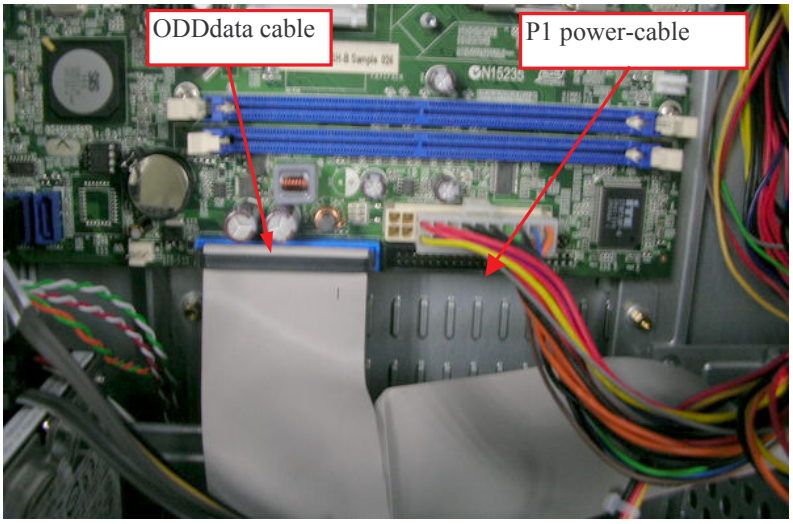
4-5.Disconnect the USB cable



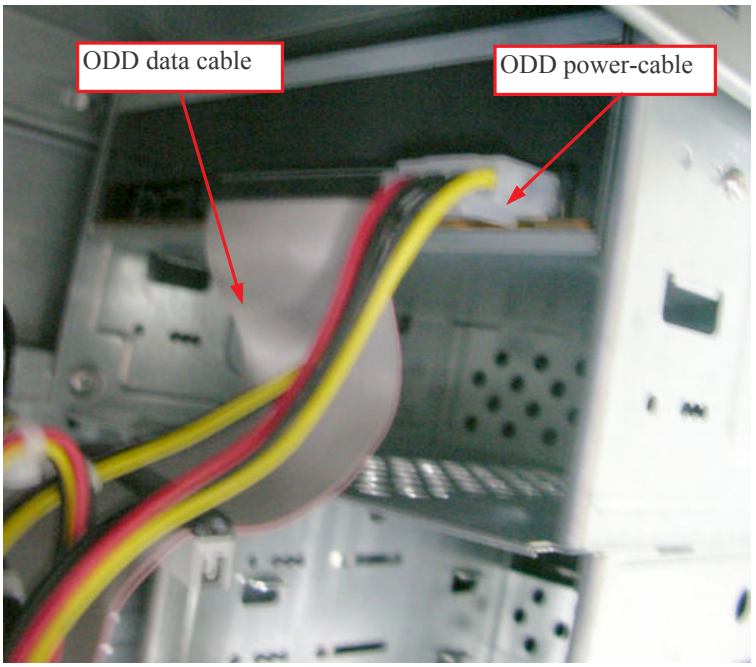
4-6.Disconnect the PA and PD power-cable to the MB connector.



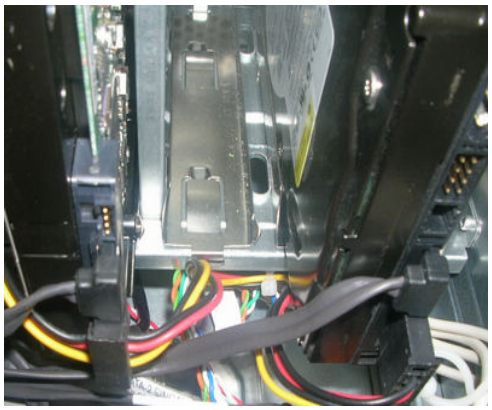
4-7.Disconnect P1 power cable and ODD data cable.

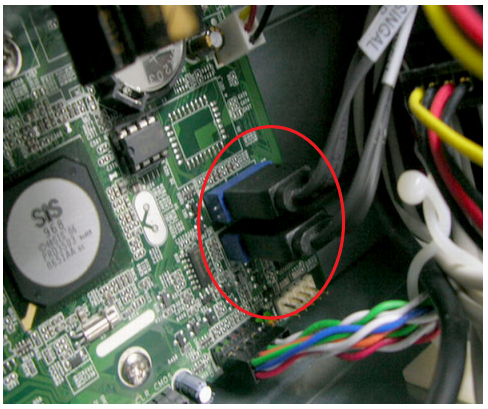


4-8.Disconnect the ODD power and data cable.



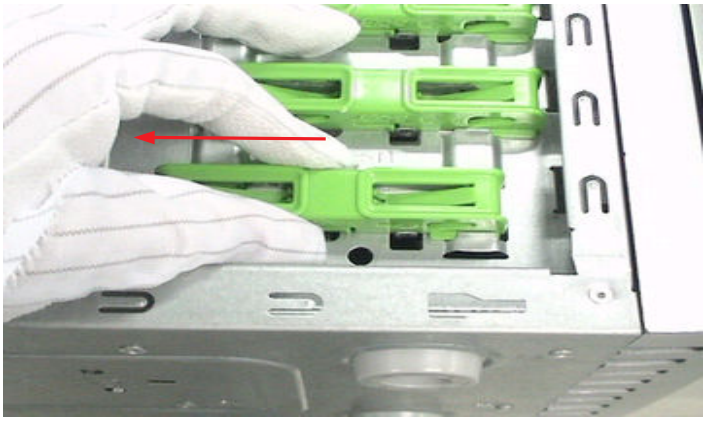
4-9.Disconnect the HDD power and data cable.





5.Disconnect the HDD

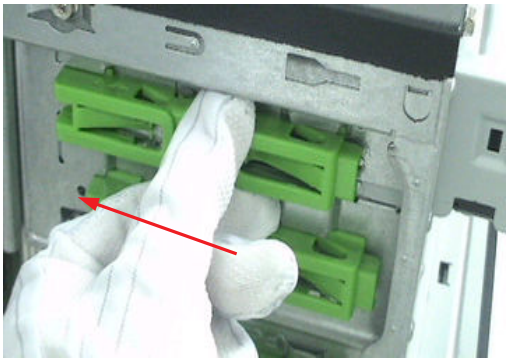
Rail the HDD-holder shown bellow, then take the HDD out from the chassis.

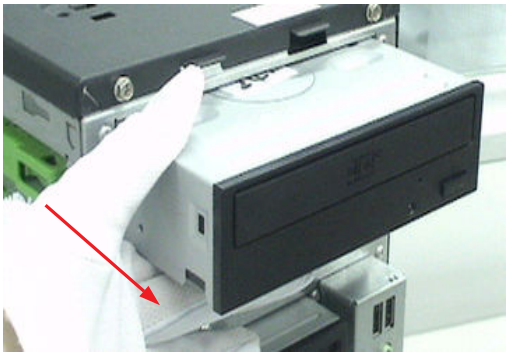


6.Release the three latches on the front bezel, then remove the front bezel.

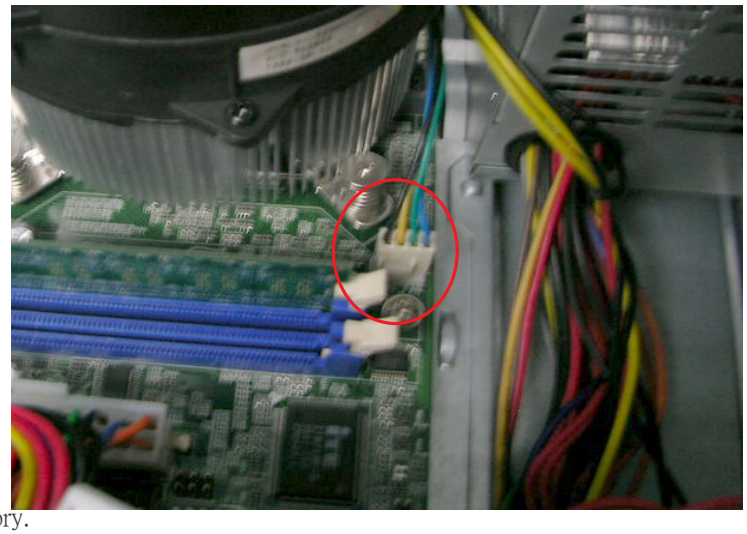
7.Disconnect the ODD

Rail the ODD-holder shown bellow, then take the ODD out from the chassis

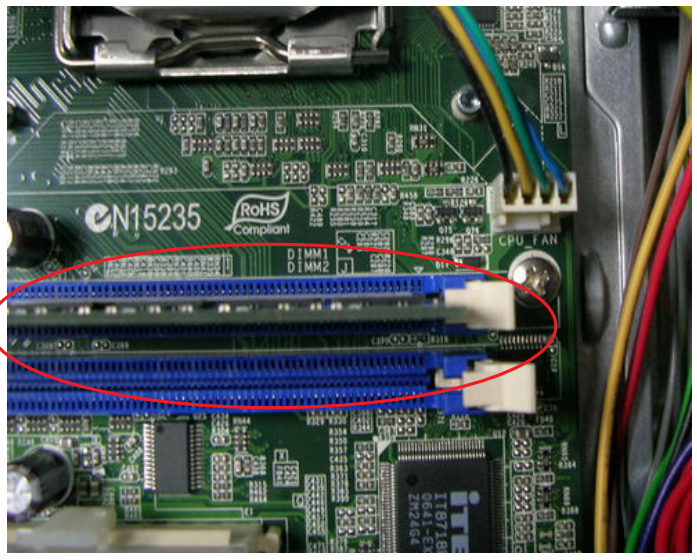




10. Release the CPU cooler from the MB.

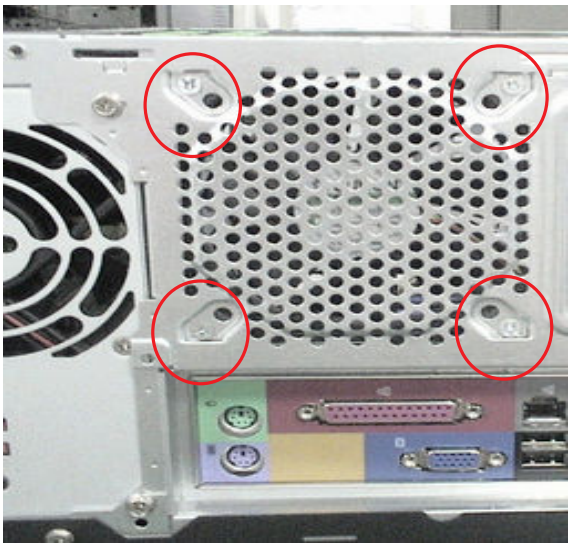


11.Release the memory.



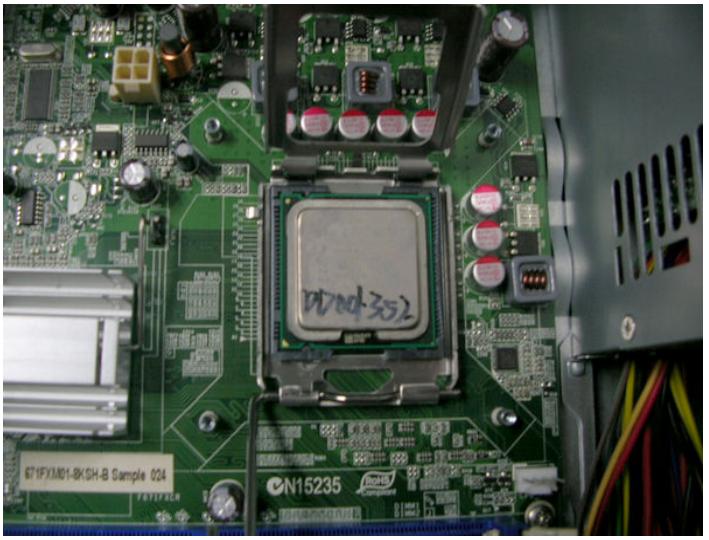
12.Remove the system FAN.

Release the four screws shown bellow then take off the fan.



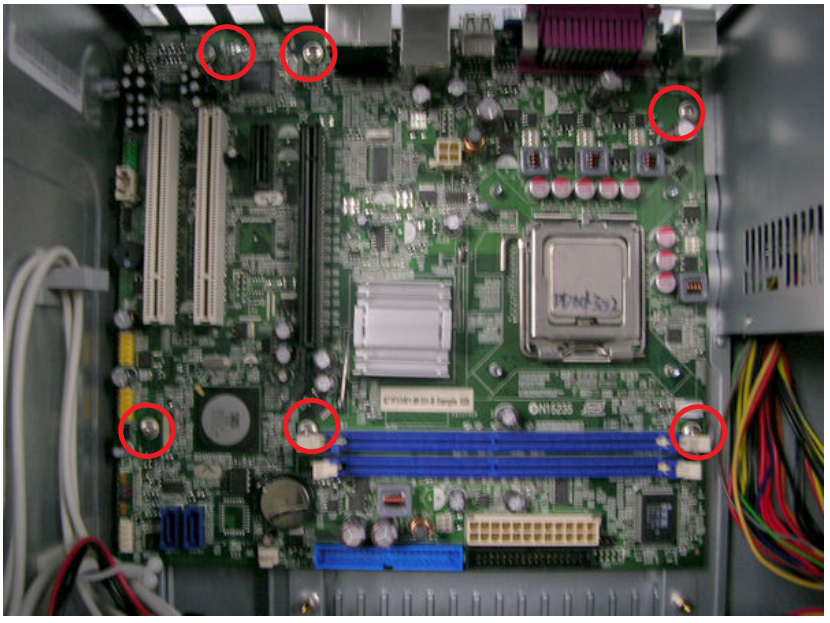
13.Remove the CPU.

Release the CPU Latch on the Socket then remove the CPU.



14.Remove the motherboard

Release the eight screws shown bellow then take off the MB.



15.Remove the power-supply.

Release the four screws shown bellow then take off the Power-supply.

Aspire SA90 Standard Disassembly Process

1.Open the computer.

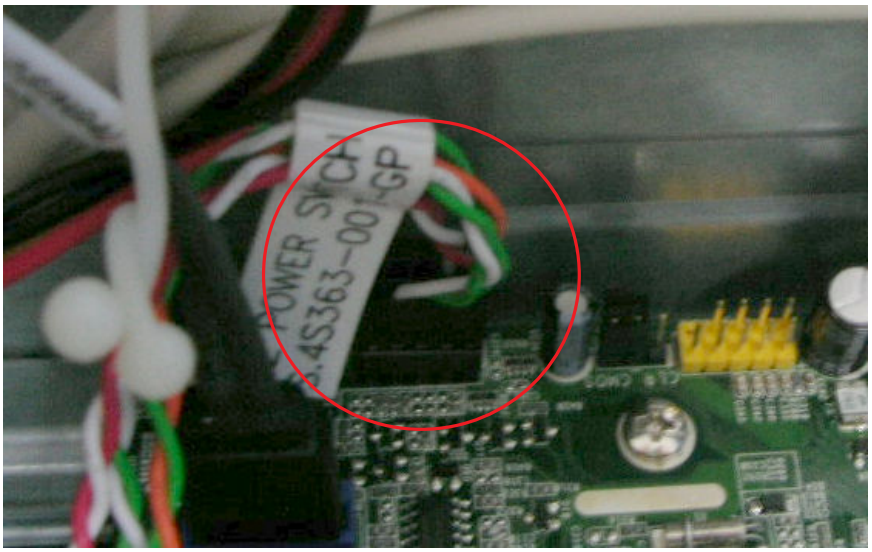
1-1. Place the system unit on a flat, steady surface.

1-2. Release the Lock-handle then slide the left side door out.

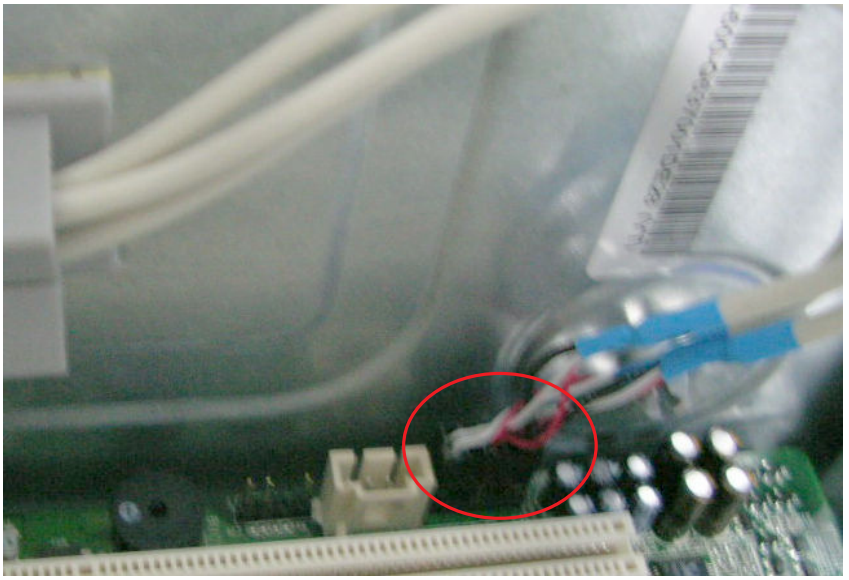
2.Disconnect the VGA&TV card.

4.Disconnect the cables

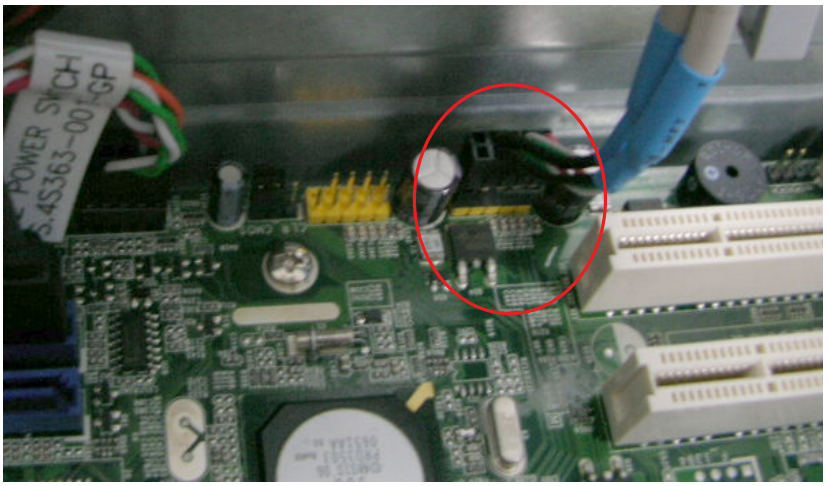
4-2.Disconnect the front bezel LED cable.



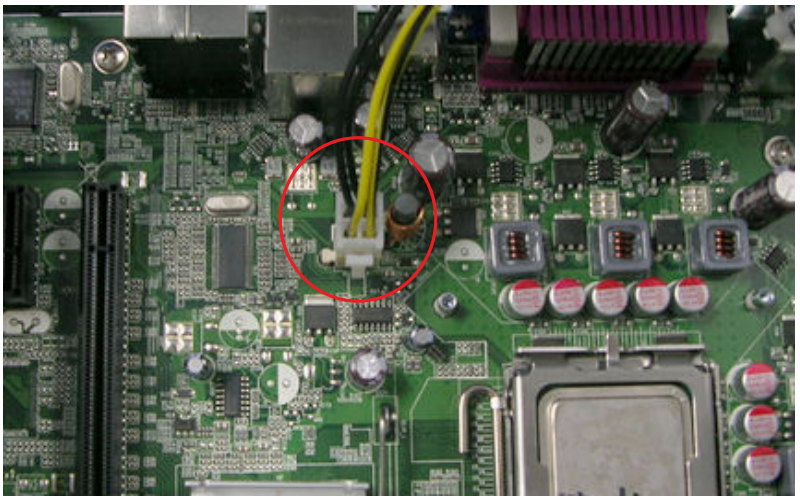
4-4.Disconnect the audio cables.



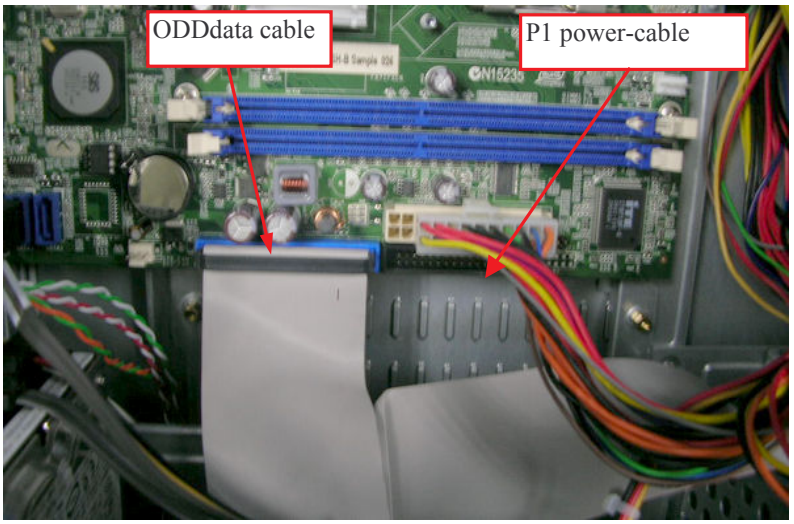
4-5.Disconnect the USB cable



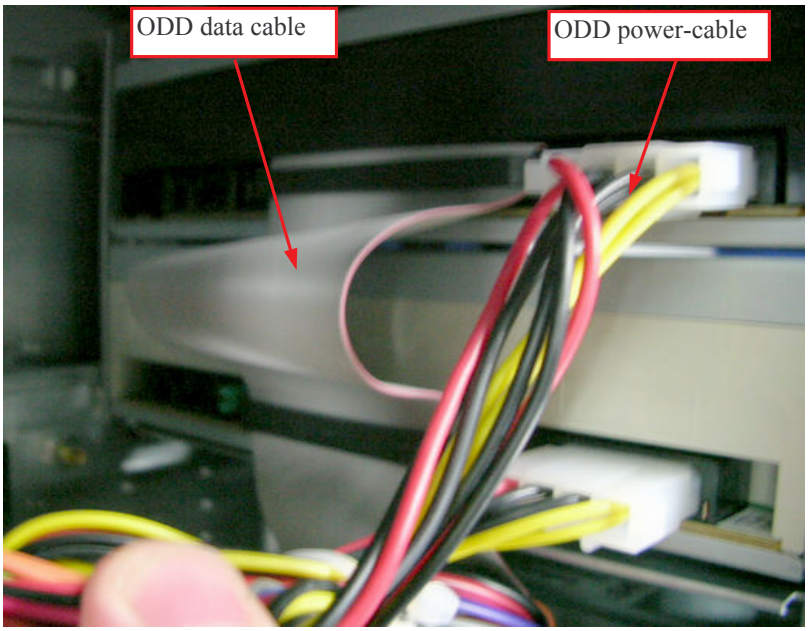
4-6.Disconnect the PA and PD power-cable to the MB connector.



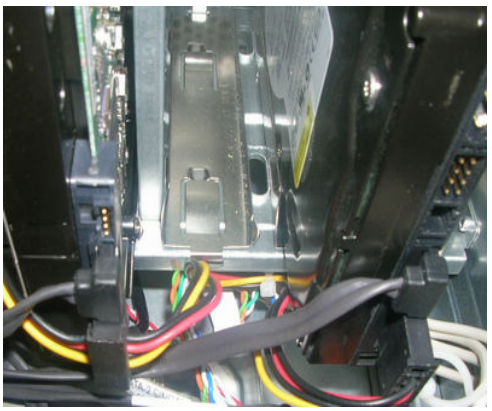
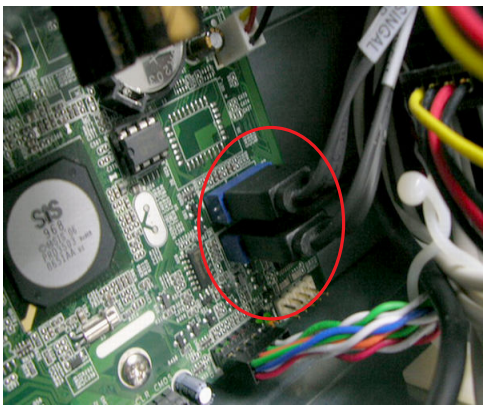
4-7.Disconnect P1 power cable and ODD data cable.



4-8.Disconnect the ODD power and data cable.

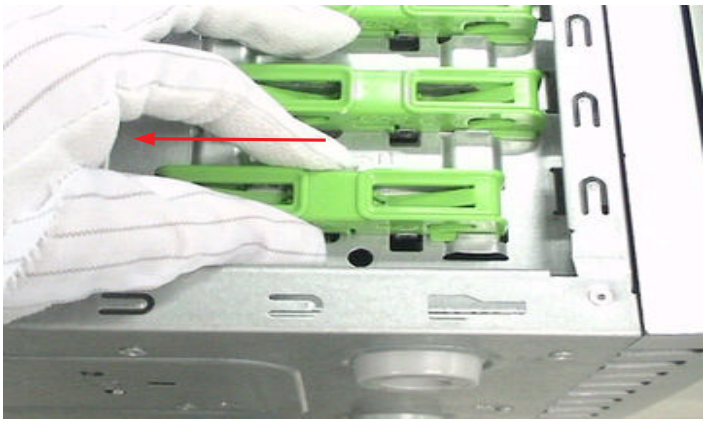


4-9.Disconnect the HDD power and data cable.

5.Disconnect the HDD

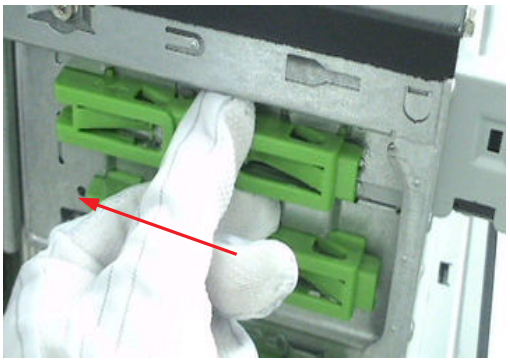
Rail the HDD-holder shown bellow, then take the HDD out from the chassis.

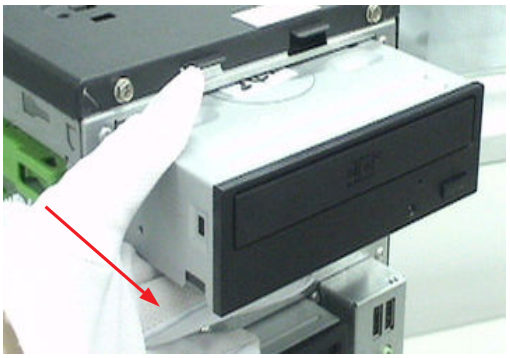


6.Release the three latches on the front bezel, then remove the front bezel.

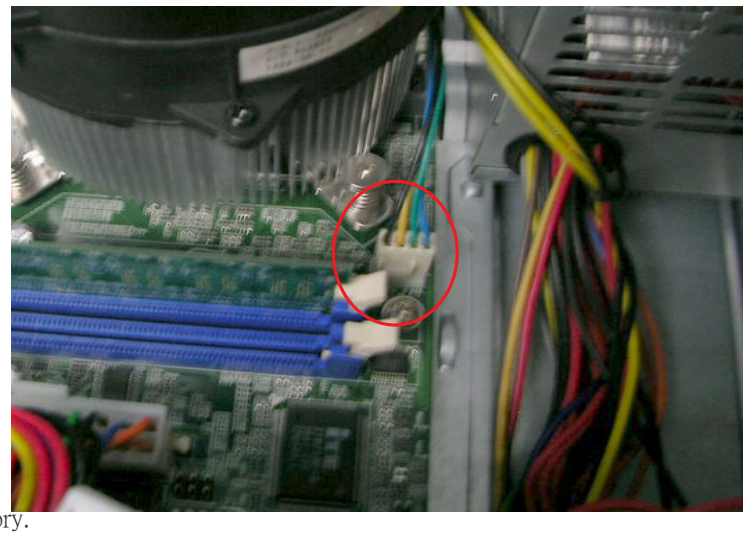
7.Disconnect the ODD

Rail the ODD-holder shown bellow, then take the ODD out from the chassis

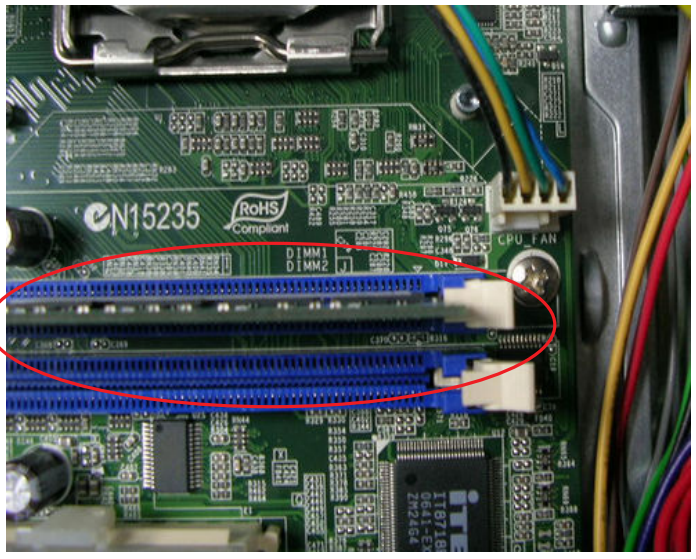




10. Release the CPU cooler from the MB.

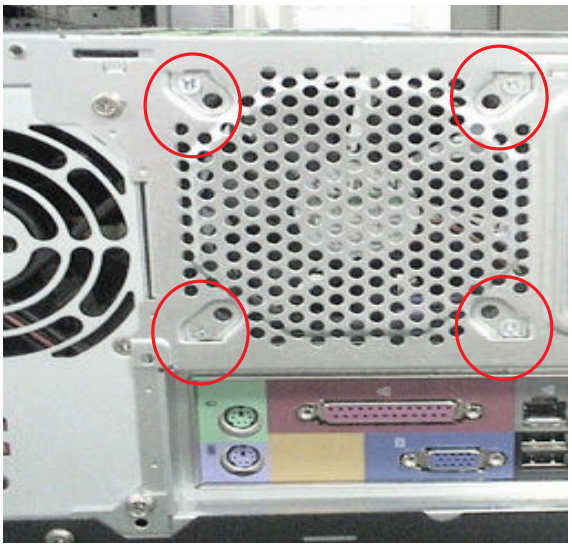


11.Release the memory.



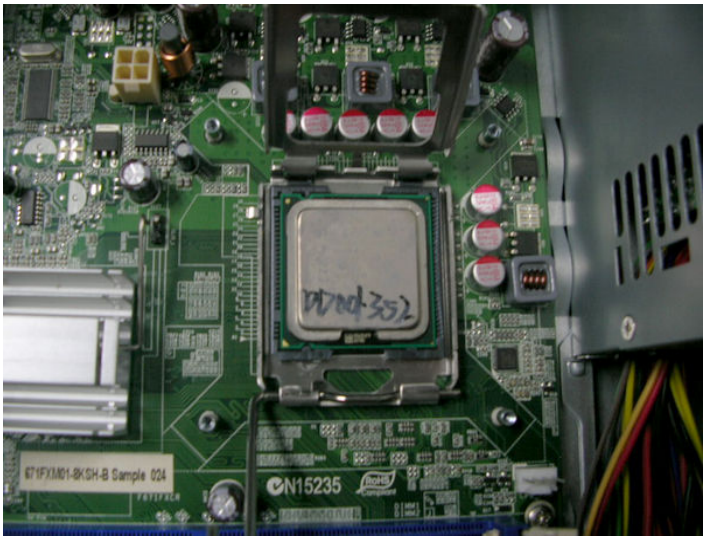
12.Remove the system FAN.

Release the four screws shown bellow then take off the fan.



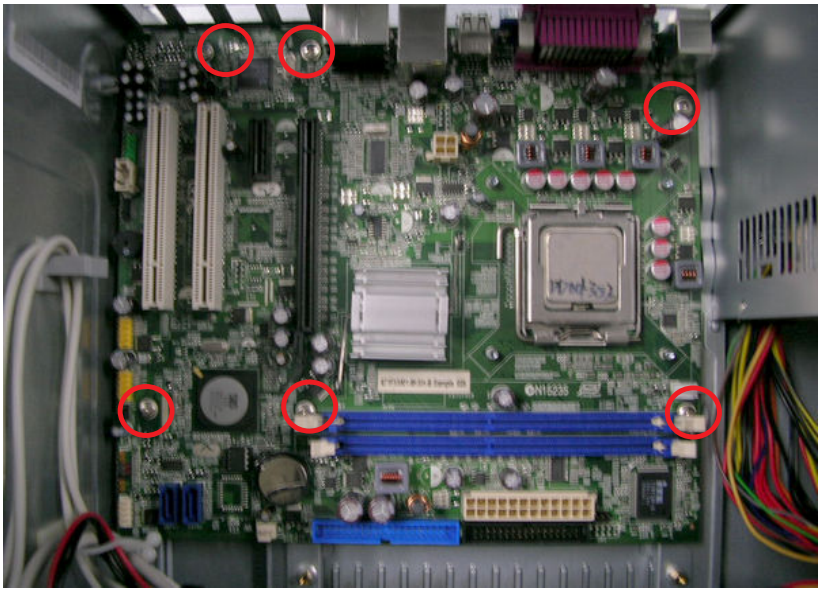
13.Remove the CPU.

Release the CPU Latch on the Socket then remove the CPU.



14.Remove the motherboard

Release the eight screws shown bellow then take off the MB.



15.Remove the power-supply.

Release the four screws shown bellow then take off the Power-supply.

Troubleshooting

Please refer to generic troubleshooting guide for trougleshooting information relating to following topics:

- Power-On Self-Test (POST)
- POST Check Points
- POST Error Messages List
- Error Symptoms List

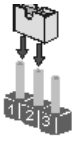
Jumper and Connector Information

Jumper Setting

This section explains how to set jumpers for correct configuration of the mainboard.

Setting Jumper

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

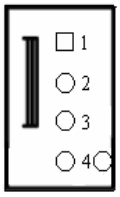
Description	Illustration
The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.	SHORT OPEN
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT	

Clear CMOS

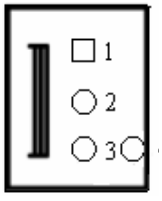
Jumper	Type	Description	Setting(Default)	Illustration
CLR_CMOS	3-pin	CLEAR CMOS	1-2 : Clear 2-3 : Normal Before clearing the CMOS,make sure to turn off the system	

Checking Connector

CPU_FAN: CPU Cooling Fan Connector

	Pin	Signal Name	Function
	1	GND	System Ground
	2	+12V	Power +12V
	3	Sense	Sensor
	4	Control	FAN Control Signal

SYS_FAN/PWR_FAN: FAN Power Connectors

	Pin	Signal Name	Function
	1	GND	System Ground
	2	+12V	Power +12V
	3	Sense	Sensor

ATX_POWER: ATX 20-pin Power Connector

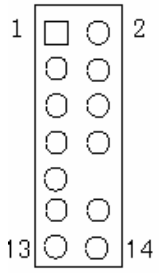
Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX12V: ATX 12V Power Connector

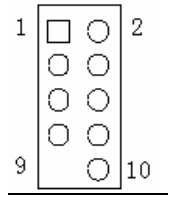
Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Header

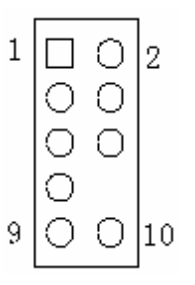
The front panel header (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or Micro ATX cases. Refer to the table below for information:

Illustration	Pin	Signal	Pin	Signal
	1	5V_SYS	2	GPIO_GRN_HDR_R
	3	HDD_LED_R	4	GPIO_YLW_HDR_R
	5	GND	6	PSIN
	7	ICH_SYS_RSTJ	8	GND
	9	5V_SYS	10	KEY
	11	NC	12	5V_SB
	13	NC	14	LAN_ACTJ

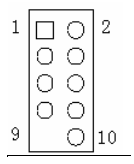
Front USB

Illustration	Pin	Signal	Function	Pin	Signal	Function
	1	VREG_FP_USBPWR0	Front panel USB power(Ports 0,1)	2	VREG_FP_USBPWR0	Front panel USB power(Ports 0,1)
	3	USB_FP_P0-	Front panel USB Port 0 Negative Signal	4	USB_FP_P1-	Front panel USB Port 1 Negative Signal
	5	USB_FP_P0+	Front panel USB Port 0 Positive Signal	6	USB_FP_P1+	Front panel USB Port 1 Positive Signal
	7	GROUND		8	GROUND	
	9	KEY		10	GROUND	

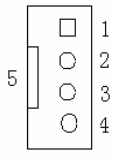
Front Audio

Illustration	Pin	Signal Name	Pin	Signal Name
	1	MIC2-L	2	AUD_GND
	3	MIC2-R	4	AUD_PRESENCE_L
	5	LINE2-R	6	MIC2-JD
	7	FRONT-IO-SENSE	8	KEY
	9	LINE2-L	10	LINE2-JD

Front 1394

Illustration	Pin	Signal Name	Pin	Signal Name
	1	TPA+	2	TPA-
	3	GROUND	4	GROUND
	5	TPB+	6	TPB-
	7	+12V(FUSED)	8	+12V(FUSED)
	9	KEY	10	GROUND

Aux_In

Illustration	Pin	Signal Name	Pin	Signal Name
	1	CD_IN_L	2	GROUND
	3	GROUND	4	CD_IN_R
	5	KEY		

Intruder

Pin	Signal Name	Pin	Signal Name
1	INTRUDERJ	2	GROUND

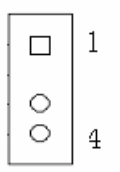
J3(for requested)

Pin	Signal Name	Pin	Signal Name
1	AGPIO1	2	GROUND

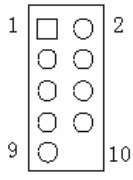
J4(for requested)

Pin	Signal Name	Pin	Signal Name
1	AGPIO2	2	GROUND

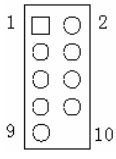
SPDIF_OUT

Illustration	Pin	Signal Name	Pin	Signal Name
	1	5V_SYS	2	KEY
	3	SPDIF_OUT	4	GND

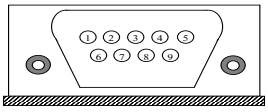
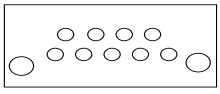
IRDA(Reserved)

Illustration	Pin	Signal Name	Pin	Signal Name
	1	5V_SB	2	IR_26
	3	SIO_RSMRSTJ	4	RESETCONJ
	5	IR_20	6	IR_27
	7	IR_RE	8	IR_21
	9	GND	10	KEY

COM2

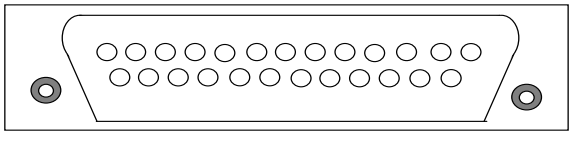
Illustration	Pin	Signal Name	Pin	Signal Name
	1	NDCDB	2	NSINB
	3	NSOUTB	4	NDTRB
	5	GND	6	NDSRB
	7	NDSRB	8	NCTSB
	9	NRIB	10	KEY

COM1

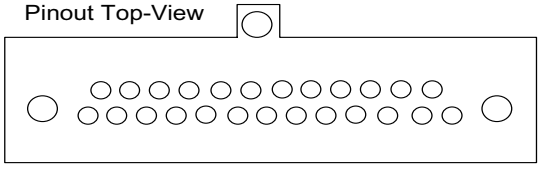
Illustration	Pin	Signal Name
Front Side View  Pinout Top-View  Figure-(2)	1	DCD
	2	RxD
	3	TxD
	4	DTR
	5	Ground
	6	DSR
	7	RTS
	8	CTS
	9	RI

LPT

Front Side View



Pinout Top-View

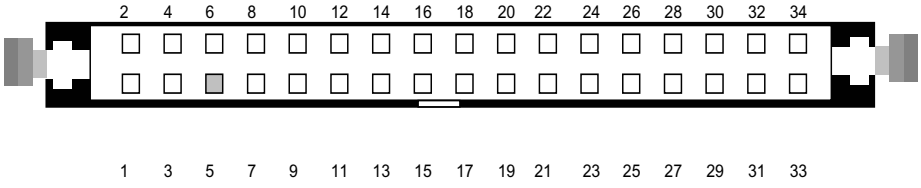


Pin	Signal Name	Pin	Signal Name
1	STROBE	13	SLCT
2	PD0	14	ALF
3	PD1	15	ERROR
4	PD2	16	INIT
5	PD3	17	SLCTIN
6	PD4	18	Ground
7	PD5	19	Ground
8	PD6	20	Ground
9	PD7	21	Ground
10	ACK	22	Ground
11	BUSY	23	Ground

Pin	Signal Name	Pin	Signal Name
12	PE	24	Ground
		25	Ground

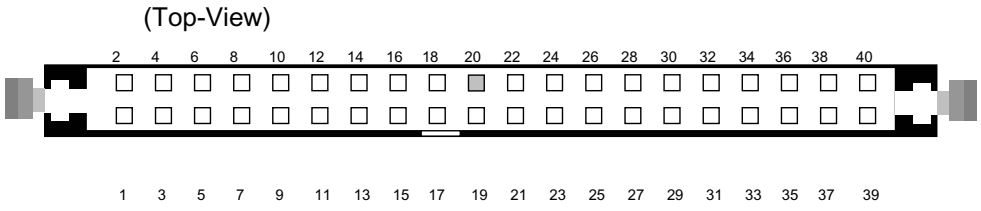
FDD

(Top-View)



Pin	Signal Name	Pin	Signal Name
1	Ground	2	DRVDEN0
3	Ground	4	HDL-
5	Keypin	6	DS3-
7	Ground	8	INDEX-
9	Ground	10	MTR0-
11	Ground	12	DS0-
13	Ground	14	DS1-
15	Ground	16	MTR1-
17	Ground	18	DIR-
19	Ground	20	STEP-
21	Ground	22	WDATA
23	Ground	24	WGATE-
25	Ground	26	TRK0-
27	Ground	28	WP-
29	Ground	30	RDATA
31	Ground	32	HDSEL-
33	Ground	34	DSKCHG-

IDE1



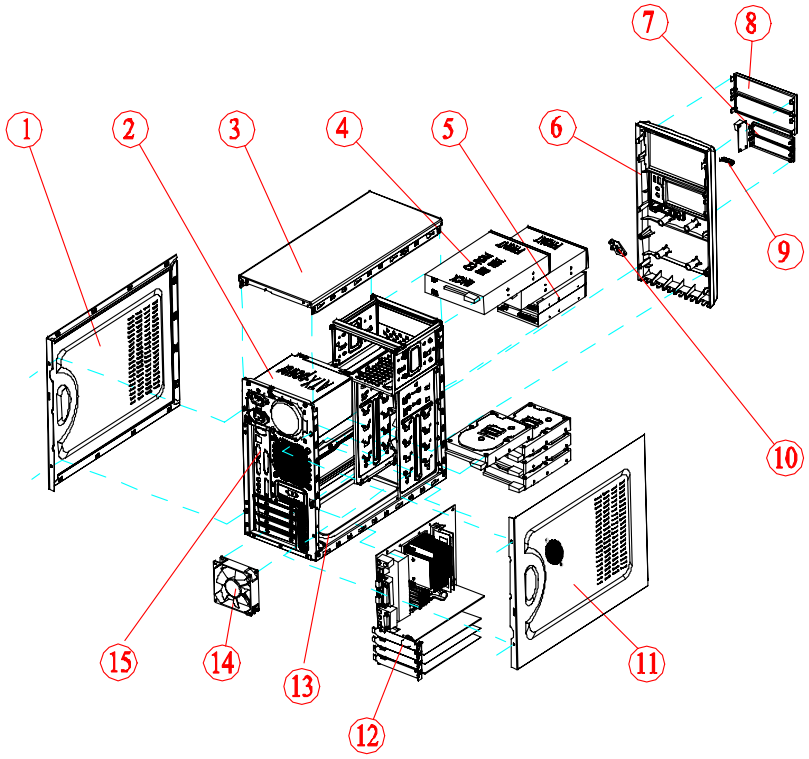
Pin	Signal Name	Pin	Signal Name
1	RESET-	2	Ground
3	DD7	4	DD8
5	DD6	6	DD9
7	DD5	8	DD10
9	DD4	10	DD11
11	DD3	12	DD12
13	DD2	14	DD13
15	DD1	16	DD14
17	DD0	18	DD15
19	Ground	20	Keypin
21	DMARQ	22	Ground
23	DIOW-	24	Ground
25	DIOR-	26	Ground
27	IORDY	28	PSYNC:CSEL
29	DMACK-	30	Ground
31	INTRQ	32	IOCS16-
33	DA1	34	PDIAG-
35	DA0	36	DA2
37	CS1FX-	38	CS3FX-
39	DASP-	40	Ground

FRU (Field Replaceable Unit) List

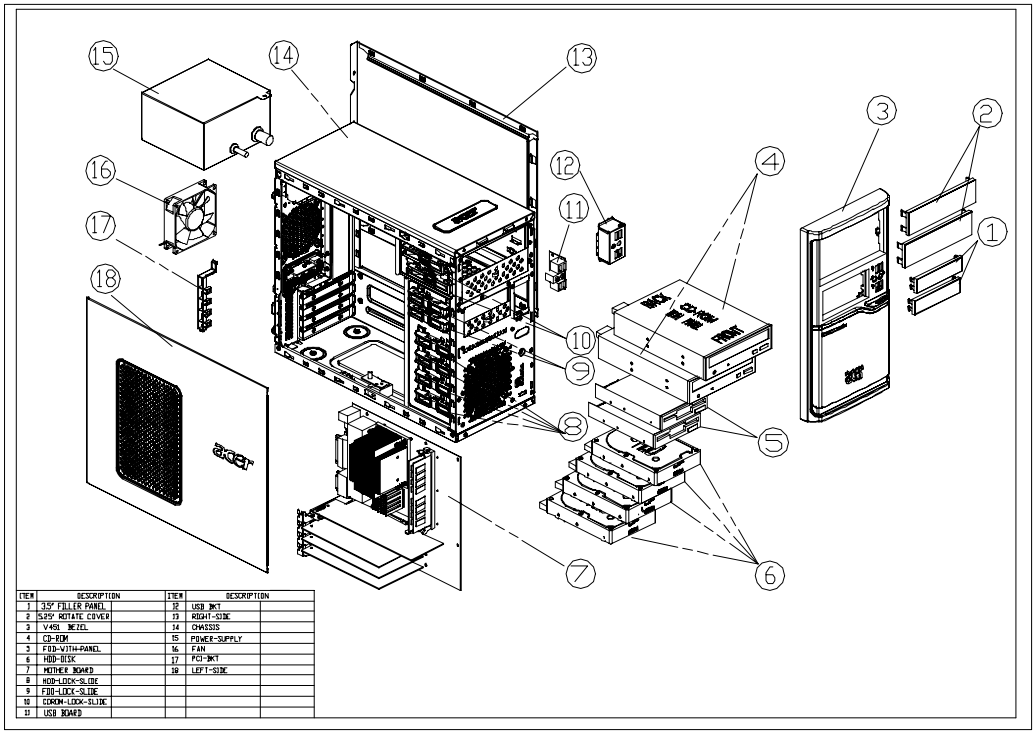
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of **Aspire SA90/ AcerPower S290**. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (http://aicsl.acer.com.tw/spl/, if you do not own a specific account, you can still access the system with guest; guest). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Exploded Diagram



ITEM	Description	P/N
1	Right Side Cover	2IA21-135
2	Power supply	
3	Top Cover (Painted)	2IA21-136
4	CD-ROM	
5	FDD	
6	FRONT BEZEL	
7	3.25 COVER	2Q896-001
8	5.25 COVER	2L273-313
9	Power-Button	
10	Lock Holder	
11	Left Side Cover	2IA21-139
12	Mother Board	
13	CHASSIS SUB ASSY	
14	SYSTEM FAN	
15	I/O SHIELD	



ITEM	DESCRIPTION		ITEM	DESCRIPTION	
1	3.5" FILLER PANEL		12	USB BKT	
2	5.25" ROTATE COVER		13	RIGHT-SIDE	
3	V-451 BEZEL		14	CHASSIS	
4	CD-ROM		15	POWER-SUPPLY	
5	FDD-WITH-PANEL		16	FAN	
6	HDD-DISK		17	PCI-BKT	
7	MOTHER BOARD		18	LEFT-SIDE	
8	HDD-LOCK-SLIDE				
9	FDD-LOCK-SLIDE				
10	CDROM-LOCK-SLIDE				
11	USB BOARD				

Parts

The spare parts will be updated later.